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ABSTRACT

Based on the assumption that the steps involved in the total Peace Corps program-training process as well as the interrelationship of programing and training are essential to a trainer's ability to design, implement, and evaluate good training, the 11 steps of the program-training-evaluation process are described here with illustrative diagrams and examples. Content is divided into eight chapters: (1) Training and Programing; (2) Integration of Program-Training Process; (3) A Systematic Approach to Training; (4) Task Analysis: Preparing a Task Analysis (Sample Job Description, Sample Task Analysis); (5) Training Objectives: How the Use of Behavioral Objectives Can Help the Peace Corps Trainer, and The Domains of the Taxonomy of Educational Objectives (The Cognitive Domain, The Affective Domain); (6) Pre-Evaluation; (7) Learning Activities: The Five Teaching Learning Principles (Perceived Purpose, Appropriate Practice, Knowledge of Results, Graduated Sequence, and Individual Differentiation); and (8) Post Training Evaluation: Conducting a Post Evaluation and Training Evaluation Introduction. (HD)

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PEACE CORPS TRAINING GUIDELINES:

THE PROGRAM AND TRAINING LOOP AND A SYSTEMATIC APPROACH TO TRAINING

Reprinted from Peace Corps Training Guidelines, 1973
for NANEAP Programmers and Trainers

CE 010 021

TABLE OF CONTENTS

		Page
I.	Training and Programming	1
II.	Integration of Program-Training Process	5
III.	A Systematic Approach to Training	25
IV.	Task Analysis	29
	Preparing a Task Analysis	31
	1. Sample Job Description	45
	2. Sample Task Analysis	47
V.	Training Objectives	59
	A. How the Use of Behavioral Objectives Can Help the Peace Corps Trainer	69
	B. The Domains of the Taxonomy of Educational Objectives	71
	1. The Cognitive Domain	73
	2. The Affective Domain	89
VI.	Pre-Evaluation	107
VII.	Learning Activities	111
	The Five Teaching Learning Principles	
	1. Perceived Purpose	113
	2. Appropriate Practice	125
	3. Knowledge of Results	131
	4. Graduated Sequence	137
	5. Individual Differentiation	143
VIII.	Post Training Evaluation	153
	A. Conducting a Post Evaluation	155
	B. Training Evaluation Introduction	161

Training and Programming

A glance at the dictionary will indicate that one definition of "system" is "an organized set of doctrines, ideas, or principles intended to explain the working of a systematic whole. Peace Corps training is such a system working within a greater system which includes program development, training design and implementation, Volunteer support and program evaluation. This Peace Corps-oriented approach provides the principles which can explain the working of the training system. It also relates training to the larger program-training system.

A discussion of the larger system can be found in "Integration of Program-training Process" in the Introduction section of these Guidelines. The graph on the following page shows the five major elements of the training system as steps in this greater program-training system.

While programming and training all integrally related we often look at them as separate and distinct operations. The 104 is seen as the end product of programming and training as a separate operation. As a result training programs often don't accurately reflect the project description document. All to often they reflect the collective and at times mutually antagonistic, biases of program and training staff.

Volunteers often complain "I was trained for a job that doesn't exist," or "I was trained for things I hardly ever do, "or" I was given little or no training in the most important skills required by my job."

These complaints occur primarily for three reasons:

1. The programming process is not approached systematically as a result it does not produce an accurate description of what the job actually entails.

2. There is little or no relation between the programming process and the training process.

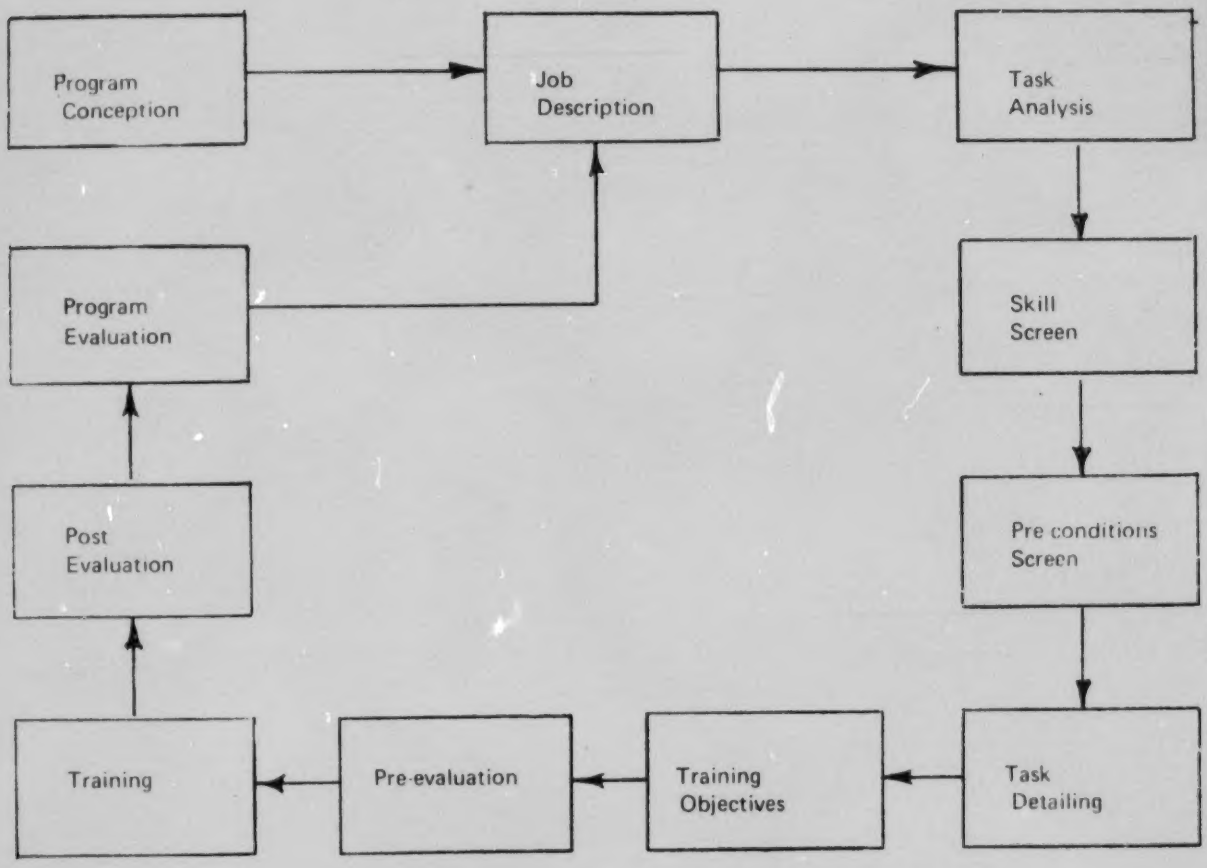
3. There is little or no evaluation of Volunteers in the field to determine:

   a. the relevancy of the programming and training process to the Volunteer job;

   b. the efficiency of the training process in preparing the Volunteer for that job.

n understanding of the steps involved in the total Peace Corps rogram-training process as well as the interelationship of rogramming and training is essential to a trainer's ability o design, implement and evaluate good training.

PROGRAM-TRAINING SYSTEM



Integration of Program-Training Process

Peace Corps training of suitable candidates is part of a larger program-training process involving program planning, recruitment/placement, posting, Volunteer service and evaluation. A trainer's ability to produce effective and relevant training depends on his understanding of this larger process and the degree to which training is related to it.

While programming and training are integrally related they are often viewed as separate and distinct operations. The 104 is seen as the end product of programming. Having satisfied Washington's requirements for program justification, attention is then turned to training. A training program seldom accurately reflects the project description document. All too often it reflects the collective and at times mutually antagonistic, biases of program and training staff.

Volunteers often say "I was trained for a job that doesn't exist." Or, "I was trained for things I hardly ever do." Or, "I was given little or no training in the most important skills required by my job."

These complaints occur primarily for three reasons:

1. The programming process is not approached systematically and does not produce an accurate description of what the job actually entails.

2. There is little relationship between the programming process and the training process.

3. There is little or no evaluation of Volunteers in the field to determine: (a) the relevancy of the programming and training process to the Volunteer job; and (c) the efficiency of the training process in preparing the Volunteer for that job.

One approach to systemizing and integrating the programming and training functions is briefly outlined below. An essential prerequisite to effective use of the system is having done the relevant homework, i.e., one must be familiar in some depth with the technical area, the language, the cultural frame of reference, etc. If the program is in poultry and one has no background in poultry science, a concerted effort to bone up on the subject is necessary. The eleven steps of this framework are:

Step 1. -- PROGRAM CONCEPTION: This is the initial stage in the process. In practice it most often involves the initiation of a request--either by the country staff or by the host agency concerned. At this point the program is usually not clearly defined and there is at least the possibility that the role of the Volunteers will be perceived differently by Peace Corps and the host agency. Nonetheless, it is a necessary first step and should be the opportunity to make some initial judgements about the program. Among the most important of these are:

1. Is the program as conceived compatible with the three goals of the Peace Corps, that is, does it offer the opportunity for Volunteers to provide middle-level manpower assistance, to increase knowledge of American and Americans in the host country, and to increase knowledge of the host country among Americans.

2. Is the program consistent with Peace Corps and host country philosophies and priorities as presented in the Country Plan.

3. Is the program consistent with projections of future Peace Corps involvement in the host country development program.

4. Is the program, in its conceptual state, feasible? That is, does the host country have provision for the fiscal and material

requirements of the project. Is it likely that the skills required can either be recruited or trained to perform the job. Do potential supervisors, counterparts and clients have a favorable attitude toward the project and Volunteer involvement in it.

5. At this point is it possible to establish tentative measurable goals for the project.

By the conclusion of the program conception stage there should be positive answers to the first four questions as well as a working statement of the goals of the project which should be consistent with these answers. As subsequent programming and training work is completed, the results should remain consistent with these basic goals.

Step 2. -- JOB DESCRIPTION: A job description is the first stage in refining the definition of what the Volunteers in the program will actually do. This must include not only the technical job, per se, but the language and cross-cultural skills required to live and work in the country and position identified.

By definition a job description is an outline of the job, compiled in a few paragraphs. It highlights the major functions of the Volunteers as well as any significant limiting conditions whether they be fiscal, material, cultural or linguistic. The initial job description is, essentially, a plan of action for further programming activities. After this work has been completed, the final job description is written summarizing the results. Most important is that in both its initial and final forms the job description should be consistent with the goals established for the project.

While this "once over lightly" job description is an essential step in the process it should not be considered an adequate definition of what the Volunteer will do. Unfortunately, if the vast majority of 104s can be taken as a fair indication, this is the extents of job-related description which is normally produced.

A sample job description is included in this section.

Step 3. -- TASK ANALYSIS: A job description, while essential, is still not an adequate representation of what a Volunteer in the field will actually do. It simply does not provide enough data upon which to base decisions on the program's viability, the skills required, the length and content of training, the necessary support inputs, etc. Nor does it really provide sufficient information for a prospective trainee to make a legitimate decision about his participation in the program.

Task analysis, which is the next step in the process, is the essential lynchpin and forms the basis for virtually all subsequent decisions. In essence, a task analysis includes every conceivable task that a Volunteer in the program might perform whether it be cross-cultural, self-developmental, technical, or linguistic. While it is possible--indeed probable--that the Volunteers will neither be trained to nor actually perform all these tasks, it is essential to determine what they are so that legitimate decisions can be taken about what should and should not be included. Further, this data is essential to make an accurate determination as to whether:

1) the program is in fact consistent with Peace Corps and host country goals;

2) it is reasonable to assume that Volunteers with the prerequisite skills can be recruited, placed and trained to perform the job;

3) the necessary fiscal, material and attitudinal preconditions for performance of the job actually exist;

4) what the content of training should be and what the criteria for qualification should minimally consist of;

5) certain administrative, logistic, material, or in-service training support will be required;

6) what the basis for program evaluation will consist of.

The task analysis, in final form, is the key hypothesis upon which a Peace Corps program should be based, implemented, and tested.

What is a "task"? A task is a set of logically related steps or actions resulting in an end product. Examples might include:

1) repairing a tire
2) inseminating a cow
3) writing a speech
4) designing a survey
5) solving a problem

The essential characteristics of tasks are:

1) each of the examples involves two or more steps;

2) in all cases there is an observable action or end product: a repaired tire; an inseminated (and hopefully pregnant) cow; a speech; a survey; a solved problem.

3) in most, but not all cases, the activities leading to the end product can also be observed. In those cases where they are not directly observable, they can be elicited by asking an individual what he is doing or did to achieve the end result.

4) it would be possible for both the doer and the observer to agree whether or not the task had been done.

The following examples meet these criteria for tasks:

The Volunteer:

1) determines from farmers what they perceive their needs to be;

2) solves personal problems systematically, identifying all physical and cultural factors related to that problem;

3) establishes goals consistent with his own needs and those of his colleagues and clients;

4) determines those areas of language in which he is deficient and designs an approach to systematically analyze those areas and develops learning activities to develop his proficiency.

The following examples do not meet the criteria for tasks:

1) is supervised by a host country national and lives in housing comparable to that of his counterpart;

2) is expected to demonstrate empathy for the local culture;

3) knows the rules governing purchase of materials;

4) is placed singly in a district headquarters assigned to the office of the Fisheries Department;

5) must be flexible in order to adapt;

6) will be working with a supervisor who has a B. Ed. degree and in a situation with only four hours of structured class time every week.

Number one is primarily a statement of the conditions under which a Volunteer in the program will work. It does not state what he will actually do. If you think for a moment of what types of activities might be involved, you'll probably agree that there are several.

Number two describes an attitude we would like Volunteers to have. In many cultures it is difficult for Volunteers to simply sustain empathy. On the other hand, if we identify the tasks that are involved, and subsequently train Volunteers to a level of competence, we enhance the probability that they actually will demonstrate the attitude.

Number three's inoperative word is "knows." Think of the various types of activities that might be used as evidence of knowledge. It might mean something as simple as stating or listing the rules. Or, it might involve using the rules correctly. In short, the use of the work "know" is imprecise in suggesting an observable action.

Like number one, number four merely states the conditions under which tasks will be performed. Useful--but inadequate--information does not comprise a task.

Number five's "flexibility" is, like "empathy" a desireable attitude or group of attitudes. It does not suggest what a Volunteer does to either demonstrate--or attain--flexibility.

Number ten merely suggests condition of performance, not performance itself.

A sample task analysis in included in this section. It is by no means a perfect one but it does consist of tasks which meet the above criteria.

It should be noted that:

1) the tasks are divided into technical, cross cultural and language tasks;

2) the technical tasks are in turn sub-divided into groups of related tasks;

3) some of the tasks involve primarily physical

(psychomotor) activity; some were primarily concerned with intellectual skills (cognitive); and some involved attitudes (affective).

4) There are many more technical tasks than cross cultural or language tasks. This is not a reflection of their importance but rather suggests that some task are relatively simple to perform and to learn to perform while others are sophisticated and difficult.

5) As noted above this sample is by no means complete. For instance we know that Volunteers are more successful when they have the capacity to develop their skills (technical, language and cross cultural) throughout their service. Also successful Volunteers often identify an appropriate role for themselves in their communities. A more complete task analysis would probably include tasks that relate to these.

In addition to a sample task analysis, suggestions for how to prepare a task analysis are also included in this session.

It is very important and useful to continually involve the host agency in this process. This involvement will promote a mutual perception of what the Volunteers in the field will actually do. It will also aid in reaching a mutual decision on the types of skills which are required for the program and whether generalists can be trained to perform at this level. Last, it forms a basis for mutually deciding whether the preconditions exist for performing the tasks specified.

The task analysis is the critical element in the program-training process. It should be used in the following ways:

1) to determine whether the actual job (tasks delineated) remains faithful to the program goals and initial job description;

2) to determine what entry skill level is required of invitees to the program;

3) to extrapolate the fiscal, material and attitudinal preconditions necessary for performance of the job;

4) as the basis for terminal training objectives and minimal qualifying criteria;

5) as the critical data to be used in evaluating both the effectiveness of the program and of training.

Step 4. - SKILL SCREEN: The task analysis provides the essential information on what the Volunteer in the program will actually do. As discussed, it should include technical, cross-cultural, language and self-development tasks. The next determination is what skills are required of an individual which, combined with training, will enable him to perform those tasks.

Most often the procedures is to identify the general technical area and review the skill code directory for "available" categories, i.e., those which seem to contain individuals with those technical skills. This approach has two shortcomings:

1) skill codes and their title definitions often are misleading in terms of what an individual with that title can actually do. This problem is sometimes compounded by the field's limited knowledge of what a title means (e.g., requests for veterinarians when animal husbandry is the focus of the program.)

2) in virtually every instance, technical skills are in short supply which heightens the probability of significant shortfalls.

An approach which might prove more useful involves beginning with the question: "Can a generalist be trained to perform these tasks"? To answer this question:

1) Review prior training efforts in the same or similar program areas; what objectives

were set; what trainee entry levels were; what success was achieved in meeting objectives. Obtain information from your country, other countries.

2) With the assistance of trainers, Volunteers, and any other knowledgeable resources, determine the approximate time levels necessary to train a O-level trainee to proficiency in the tasks specified.

If the results of these investigations suggest that generalists can be trained, the wisest course would be to request generalists or other surplus skills or, if in-field support is considered a necessary supplement to training, request a mix of skilled and generalist trainees.

If investigation result in the determination that background skill is required, attempt to determine (using a process similar to that described above), what the minimal background skill is.

The next step is to determine the availability of the skill requested. While there is some variation from matrix to matrix, it should be possible to obtain relatively reliable projections for the skill or skills that appear necessary.

If projections indicate that the program can be filled--programming can proceed to the next step. If projections indicate a significant shortfall, a decision must be taken which would involve some of the following options:

a) cancellation of the program
b) postponement until such time that skills are available
c) elimination of those tasks which require unavailable skills so that a lower available skill component can be utilized. This decision should be made only when:

1. the remaining tasks comprise a viable program

2. the redefined program is acceptable to the host agency.

Why go through this process rather than simply attempting to identify the skills that "seem" right:

- First, by basing skill requests on a task analysis and an estimate of training efficacy, the possibility of filling programs and reducing shortfalls is increased.

- Second, the possibility of recruiting and placing Volunteers in programs for which they are over-qualified is significantly reduced.

- Third, the opportunity for "surplus" skill applicants to benefit from the Peace Corps experience is increased, that is the base of those who can potentially help achieve the three goals of the Peace Corps is broadened. Experience suggests that proper task analyses often indicates the need for a lower or less specialized technical skill level than was thought necessary at the time of original program conception. It may also indicate a need for stronger inter-personal, self evaluative and self directive skills. If so, the task analysis can be a powerful tool for obtaining host recognition of the value of appropriately selected and trained generalists. This is especially true if the host agency, has been an integral part of the program development, and understands and concurs in the task analysis. It is clearly as much in error to place a Volunteer who is over qualified as it is one who is unqualified. Higher skills and new direction Volunteers will not compensate for weaknesses in programming.

Step 5. -- PRECONDITIONS SCREEN: For virtually every Volunteer program there are certain essential preconditions, without which the Volunteers face serious obstacles to making an effective and useful contribution. Some of these are blantantly obvious; others are fairly subtle. As obvious as some may be, they are often overlooked--with less than happy consequences for the volunteers. One illustrative example is a well-drilling program which was recruited and trained to work in north India. Only one small precondition was overlooked: there were no drilling rigs available. They finally arrived after about one year and the termination of half the group. While this is a fairly dramatic example, it is not an isolated one.

The task analysis provides a useful tool for both determining what preconditions are essential and whether they are present. For each task identified it should be possible to extrapolate what is required for the performance of that task. In doing such an extrapolation, it is useful to think in terms of certain categories:

1. Fiscal Preconditions: Certain programs require financing. For example, if Volunteers are expected to perform tasks in a food for work program, or a land development project, or in crop production, or a pilot educational program, etc., there are likely to be fiscal inputs which, if unavailable, will make performance of those tasks difficult or impossible.

2. Material Preconditions: By the same token, some projects involve tasks that require material inputs. Crop production programs require adequate supplies and delivery systems for seed, fertilizers, plant protection chemicals, etc. Public works programs require machinery and supplies. Educational programs may well require classroom facilities, books, equipment and the like.

3. Personnel Preconditions: If a program involves

tasks geared to train a counterpart, then an essential precondition is either a person in place or a financial provision for hiring one. Some programs require an infrastructure of personnel in place if tasks are to be implemented.

4. Attitudinal Preconditions: Last, and in some cases the most important preconditions, are those which involve attitudes. While programs often are designed to have an effect on promoting of positive attitudes towards some aspect of a development effort, there must be at least a basic attitude to work with. One example would be an agriculture program that is involved with high-yielding crops. In virtually every instance these require a positive attitude toward commercial agriculture as opposed to subsistence agriculture. Other types of programs--particularly those designed at higher levels in the government--may reflect what government planners perceive as needs but ignore what the people affected perceive as needs. If this is not considered and investigated carefully there is a risk that Volunteers will face the frustration of working in a project for which the clients' attitudinal set is negative, or at best neutral.

An example of a preconditions screen checklist is included in this section. Operationally, the first step is to compile the checklist. The second step is to investigate the presence or absence of these preconditions at a number of sites that will provide a statistically reliable sample.

It is possible that the completion of the preconditions checklist will suggest that some of the tasks mentioned are not feasible. In some instances the preconditions necessary will be promised, i.e., they are anticipated prior to placement of Volunteers in the field. A judgement must be made at this time as to the reliability of this promise. In other cases the preconditions will

be obviously unavailable both at present and in the foreseeable future. Those tasks which depend on these preconditions will have to be eliminated from the job. At this point an important judgement must be made. After elimination of these tasks does a job remain that is viable, i.e., is it consistent with the original program goals; does it offer an opportunity for a useful contribution to the host country; is it reasonable to assume that it will provide a satisfying experience for the Volunteers involved. In virtually every instance this decision should be taken in concert with the requesting host government agency. The major options available are probably:

1) cancel the program

2) postone the program until the essential preconditions are present or can reasonably be expected

3) identify additional tasks in a related or different area that could be included so that the total job meets overall goals, viability, potential Volunteer satisfaction. Incorporate these in the program and again check program in terms of skill screen and precondition screen.

4) proceed with the original program minus those tasks for which preconditions are absent on the assumption that:

   a. it still is viable and/or

   b. necessary preconditions will become available prior to arrival of the Volunteers.

The programming documentation (104) should be prepared and submitted only after the completion of the above steps. Ideally, it should include a description of each step and decision taken along with a statement

which includes

1) program goals and their relationship to Peace Corps and host country goals

2) a final job description

3) a final task analysis

4) a rationale for the skills requested

5) a verification that all essential preconditions have been checked

Step 6. -- TASK DETAILING: Once it has been determined that both skills and preconditions are available, the next step is to detail the tasks listed. This is the last stage prior to the onset of the training process. As discussed above, the definition of a task is a series of logically related activities that lead to an observable action or product. Detailing of tasks involves listing those steps in performance of a task which are necessary to its completion. The use of these is to assist a training staff to define what is necessary if a Volunteer is to successfully perform a task.

With psychomotor tasks the best way to prepare a task detail list is to observe someone performing that task and to note down each of the steps involved. With cognitive and affective tasks, you attempt to elicit from a source what process he went through to reach the end product or state.

A sampe task detail is included in this section.

Steps 7 through 10 constitute the main elements of the training portion of this system. Each of these steps, briefly discussed here, is presented in more depth in the Methodology section of these guidelines.

Step 7. -- TRAINING OBJECTIVES are derived from the task analysis and task detailing. They tell the trainer what it means to be a Volunteer in a particular job and country, it gives him criteria for determining what

it means to him. They enhance the chances for success, provide a set of documents that state what was attempted which in turn provides a basis for determining what went right or wrong.

Behavioral Objectives developed in isolation from task analysis and the rest of the system may have a negative effect. If a task analysis has not been done, the trainers must make every effort to develop one themselves.

Step 8. -- PRE-EVALUATION (or pre-assessment): While this step can be initiated during the invitation process or staging, it must in reality occur seriously with the arrival of the trainees. It is designed to verify assumptions about requisite entry skills. It should also refine the trainer's knowledge of the trainees' skills in relation to the program objectives and provide information on their interests and attitudes. It may require either the modification of the program objectives or the ways in which they are to be achieved.

Step 9. -- LEARNING ACTIVITIES: This is the heart of the training process. It involves what the trainees and trainers do in order to achieve the objectives set for the program. Learning activities should incorporate the use of five teaching-learning principles.

1) Perceived Purpose means providing the trainee with specific information that will allow him to determine the worth of a learning activity.

2) Appropriate Practice means provision of opportunities for the trainee to perform in a fashion consistent with the objective. Few trainees will achieve an objective without this. If the objective is driving a tractor, a trainee should have an opportunity to drive one and not just be the victim of classroom lectures.

3) Knowledge of results means provision of opportunities for the trainees to determine the adequacy of their own responses shortly after making them.

4) Graduated Sequence means beginning with something easy and then moving on to something more difficult or from the familiar to the difficult.

5) Individual Differentiation means modification of objectives or means of instruction in response to the special needs or talents of individual trainees.

Step 10. -- POST TRAINING EVALUATION: At the end of training it is essential to determine what percentage of trainees met what percentage of objectives. This indicates (1) what changes should be made in subsequent training programs (2) what can reasonably be expected of Volunteers in the field during the initial months, and (3) what in-service training will probably be required.

Step 11. -- FIELD EVALUATION: Field (Program) Evaluation serves two major purposes:

1) It validates the judgement of a training staff on their success of promoting the training objectives;

2) It enables field staff to evaluate the accuracy of their decisions at each stage in the process:

a) is the operational program consistent with the initial goals of the project?

b) is the job description accurate?

c) are Volunteers actually performing the tasks hypothesized in the task analysis?

d) was the judgement on skills accurate? Are Volunteers underqualified or

overqualified?

e) are the necessary preconditions present? were they correctly identified?

Field evaluation should be an ongoing process. It not only helps to identify judgemental errors, but should indicate corrective measures which will help Volunteers to make a successful and satisfying contribution. In the latter stages, as a decision is taken on replacement programs, the field evaluation will provide data on whether to replace the Volunteers or not as well as indicate the types of modifications in goals, job descriptions and tasks that are required to meet needs at that point in time.

The completion of step 11 leads back to the beginning of the program-training-evaluation process.

If this process has been carefully documented in detail, we have a record to review and upon which to base subsequent programming and training decisions. Moreover it is a record that can be used by new personnel, i.e., it is a "memory system" which lives beyond the tour of an individual staff member. Most important, it permits continual improvement based on rational evaluation of data collected in a systematic way. It establishes a set of program and training hypotheses which can be tested, verified or negated, and revised. This is the basis on which better programming and training can be built.

The systematic approach described above is, at best, an outline. It provides a set of guidelines which must be expanded, elaborated, and adapted to each country's needs through experience and analysis. Hopefully, it does offer a step towards more systematic programming and training.

While most trainers are not primarily responsible for all steps of this process their ability to effect relevant training that adequately prepare Volunteers for their jobs depends to a great extent on the degree to which they have a working knowledge of the larger program-training process.

The program-training-evaluation process described here should prove a useful tool for helping to improve the quality of programs and to sustain continual ongoing improvement. It is not a panacea. It only points at the data which should be collected and the types of decisions that are important. There are a number of skills required to implement elements in the process. These require practice--preferably under the guidance of someone who can provide knowledge of results. Analysis and evaluation of data and the resultant decisions still, in the last analysis, depend on the quality of staff and their ability to make accurate and responsible judgements; the types of judgements that will ensure the qualitative growth of the Peace Corps in a way that is consistent with the three goals established in the Peace Corps Act.

A Systematic Approach to Training

Traditionally many Peace Corps persons have considered "system" a dirty word and antithetical to the job of dealing with human beings. In view of much of Peace Corps experience with program and training systems, knee-jerk reactions to the negative connotations of the word are understandable. All too often the system which was being promoted was not Peace Corps-oriented, that is, it had been been developed and adapted by individuals with a good grounding in and responsibility for actual programming and training in the field.

Of course a system at least in theory, need not be mechanistic nor limit creativity. (Einstein was a very creative individual but he did not operate without a grounding in physics.) Instead it should:

1. facilitate finding intelligent answers to questions rather than providing answers;

2. provide a common language which permits efficient communication among staff members and trainees which, in turn facilitates cooperation and mutual support;

3. identify essential steps in the training planning-implementation process and suggests means and skills to be applied in accomplishing the steps;

4. relate the training process to the larger program-training system.

5. facilitate a clear presentation of training objectives, and by extrapolation, an accurate picture of the Volunteer job. This is essential both in terms of the trainees' understanding of what is expected of them in training and in terms of their reaching a decision concerning their commitment two years service in a Volunteer job.

6. provide a means of analyzing and evaluating on-going training activities and, based on this, a means of taking corrective measures.

7. produce a meaningful record of the training program, what it attempted, how it was conducted, successes and failures and the reasons for each, and recommendations for future programs.

The systematic approach to training presented to this section, and used as the overall organizational framework for these Peace Corps training Guidelines, has, in application, been successful in fulfilling these functions. This Peace Corps-oriented system is an adaptation of work done by James W. Popham and Eva I. Baker at the University of California at Los Angeles, and by Magers and others with vocational training.

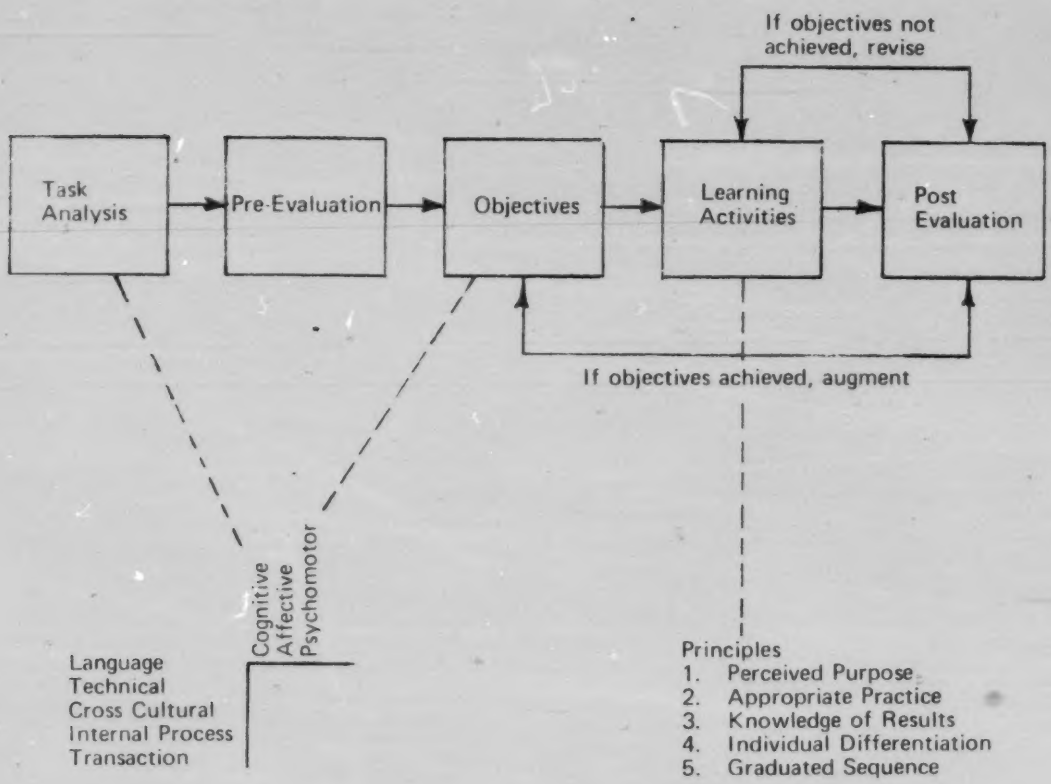
Unlike most systems or approaches which have been promoted for Peace Corps use in the past, this system was not adapted or developed by an outside specialist, a desk-bound-paper-pushing Washington bureaucrat, or any other individual operating at some distance form the real action. Instead, it was developed by field personnel with actual day-to-day involvement in the planning and implementation of Peace Corps programs. In fact, the original impetuous and development of a Peace Corps Programs in widely diverse countries.

This training system contains five major elements. These are:

1. Task Analysis
2. Training Objectives
3. Pre-Evaluation
4. Learning Activities
5. Post-Evaluation

Each of these is discussed separately in the following sequential arranged pages of this section. The essential principles of these five major elements are included in the graphic representations of the system on the next page.

TRAINING SYSTEM



Task Analysis
Essential Prerequisite for Training

A task analysis (including task detailing) should be a clear and precise specification of what the Volunteer will do. A task is a complete job element that involves a set of logically related actions. In a vocational training program this would refer exclusively to a technical job. In Peace Corps training the tasks include not only technical, but language and cross cultural tasks as well. A task analysis should include a list of all conceivable tasks that a Volunteer will do. The list should be derived from Volunteers or host country personnel already doing that job; host country supervisory personnel; and responsible Peace Corps staff.

The task analysis is an essential prerequisite to good training and the primary point at which the program and training processes are integrated. While the preparation of a task analysis is primarily a programming function, it is important for a trainer to understand the nature of, and be able to recognize, a good one. In fact, a trainer must be ready to prepare a task analysis himself if, as is often the case, a clear , precise one is not made available to him. Unfortunately, the problem with a trainer doing a task analysis is that he normally becomes involved late in the program-training process. This means the process is very probably already skewed by the lack at an earlier stage, of a clear and precise definition of what the Volunteer will do.

As a base on which to build relevant training, the overriding importance of a good task analysis cannot be overstated. The following examples from various stages of the training process illustrate this:

1. A task analysis is the only rational basis for project review and approval. In fact, no project proposal should be approved unless those who are responsible for the review process understand from the program document exactly what the Volunteers in the project will do.

3. A task analysis is the primary means of affecting intelligent selection and placement of candidates. A clear understanding of what the Volunteer will do is essential to the Placement Officer's ability to match candidates with the appropriate skills.

4. The task analysis is the heart of the insert, i.e., the program description which accompanies all invitations sent to the selection applicants. As such it is the basis for an intelligent decisions on the part of the invitee. The degree to which the insert clearly and precisely states what the invitee is expected to do as a Volunteer (as well as what training will do to help him gain the required skills) directly effects his understanding of the job and the number and type of misconceptions and pre-conceived notions he brings to training. In turn, this directly effects attitude and motivation.

5. As discussed in the next section the task analysis is the starting point to preparing training objectives.

6. The task analysis is a primary tool for evaluation of the program in the field.

More on task analysis can be found in "Program-Training Process" in the Introduction section of these Guidelines. This section includes suggestions on how to go about preparing a task analysis as well as a sample job description, task analysis and task detailing.

Preparing a Task Analysis

Suppose you are faced with the problem of a car that won't run properly. Would you start selecting tools at random and doing whatever comes to mind? Would you use the same tool on every part of the car? Or would you first analyze the problem, decide the result you wish to obtain, select and use the tools that are most suitable to attaining that result and then check to see that it has actually been accomplished.

In programming and training Volunteers you will face a good many analogous problems. Too often we approach this work much in the way that is suggested in the first method; that is we pick up the first available tool and start whaling away. It shouldn't come as a surprise that the results are often less than satisfying.

A systematic approach to programming-training-evaluation is analogous to the second procedure mentioned. It involves detailed specifications of the desired result, development of an instrument by which success can be measured, development of procedures to achieve that result, and ways to continually ensure improvement.

Several steps are involved in this systematic approach. You should be familiar with the overall approach, it doesn't differ significantly from approaching any problem systematically. The tools differ, but the procedure is virtually the same.

The three phases of the process are:

1) Determine and describe what we want to achieve;
2) Do what is necessary to achieve the desired result, and;
3) Evaluate the result to determine whether we succeeded in doing what we set out to do.

In developing Instruction this means:

1) Deriving and describing objectives in a meaningful form;

2) Developing lessons, activities and materials designed to meet these objectives, and trying them, and;
3) Determining how well the objectives were achieved and making any necessary modifications and improvements.

Whatever the subject matter, the goal of instruction is to develop ourselves or others to the point where we or they are:

1) Capable of performing satisfactorily in the job described;
2) Capable of improving skill through further practice.

Task analysis is directly related to the first goal. To prepare someone to perform a job, we must know what the job consists of, what one needs to do to perform each of the tasks, and how frequently each of these tasks is performed. Once we have this basic information we can design an approach which is <u>performance oriented</u> rather than subject oriented. The strategy is to use the job as the basis for deciding what will be taught and in what order and depth, rather than to simply present as much subject matter as possible in a given time.

Let us suppose that you are given responsibility for programming and training an agriculture program for Volunteers. The usual approach is to take an old 104, and American voc. ed. syllabus and present the materials called for. This might well involve extensive training in subject matter concerned with American crops, machinery, and the use of fairly sophisticated agricultural supplies. Much of this will probably be just plain irrelevant to the needs of a potential Volunteer in a developing nation. If, on the other hand, we analyze the job of the Volunteer, we will soon be able to identify the knowledge and skills which are essential for him to perform satisfactorily and to continue to develop his skills. This should provide the basis of performance oriented instruction.

I. <u>Job Description</u>. The first step in developing a task analysis is a "job description". This is the frame or outline from which we

work. A job description is a general statement about what a person on the job does, and tells something about the conditions under which he does them. It is not a description of what he knows. Usually such a description is short, not more than a few paragraphs. The following criteria described a job description:

1) It tells what a person does;
2) It describes any special or unusual conditions under which he does his job;
3) It includes all areas of performance (e.g., technical cross-cultural and language);
4) It is short.

An example of a simple job description is as follows:

Vocation: Radio and Television Serviceman

> He may be required to install, maintain and service amplitude and frequency modulated home and auto receivers, transistorized radios, black and white and color television, high fidelity amplifiers and tape recorders. He must be able to read circut diagrams and codes of values to select component substitutes.
>
> His job requires meeting the public both in his shop and on service calls. He may be required to drive a car or truck. He must be able to work at heights. He should be able to maintain business records and inventory.[1]

A job description sketches the outlines of high spots of the job, but it is not adequate as a basis of instruction - it isn't sufficiently specific. It does, however, provide a guide for the next step, task analysis.

II. Task Analysis

A job invariably includes a number of tasks. A task is a set of logically related actions required for completion of a job objective. It is a complete job element.

An example of a partial task analysis for a service station attendent would probably include the following tasks:

1) Cleans or replaces spark plugs
2) Adjusts and bleeds brakes
3) Replaces wheel cylinders
4) Inspects and flushes radiators
5) Tests antifreeze.

This differs from "task detailing" which is an analysis of each of the steps involved in completing a task. To illustrate this, look at the detail of the task "cleans or replaces spark plugs":

1) Note plug location relative to the cylinder; remove plug covers, leads
2) Remove all spark plugs
3) Identify the type of plugs
4) Decide whether to clean, adjust and/or replace plugs
5) Adjust and clean plugs if appropriate
6) Reinsert plugs in engine
7) Connect ignition wire to appropriate plugs
8) Check engine firing
9) Prepare bill for $40.99

This information is far more specific than the basic task analysis and represents a later step in instructional development.

The first step in a task analysis is to derive a list of <u>all</u> possible tasks, In this process we are concerned with:

A. Basic Premise - that you have learned as much as possible about the subject matter area. This enables you to ask intelligent and relevant questions and to evaluate the answers you receive. It also permits you to logically refine statements that are not task and, given an element of a task, relate it to the actual task.

B. Content - the job of a Volunteer can be delineated in terms of three areas: cross-cultural, technical and language. A job-description should include these three and a complete task analysis will include cross-cultural, technical and language tasks. (It should be noted that these are seldom performed separately or in isolation from tasks in the other areas. They merely represent a convenient way of describing tasks that are basically related.) Within each of these three areas there are task which are cognitive, tasks which are affective, and tasks which are psychomotor. Briefly, these can be defined as follows:

1) Cognitive - this type of activity is intellectual and includes skills like memory, analysis, problem solving, etc.

Examples of technical tasks which are primarily cognitive would include:

a) Writing a proposal for an ecology project;
b) Designing an agricultural vocational education course;
c) Setting up a schedule of recreational activities;
d) Compiling a swine or poultry ration from locally available materials.

2. Affective - affective activity is concerned with things like values, attitudes and beliefs. For the Volunteer, some affective tasks will be dealing constructively with his own attitudes and values. He may also be concerned with promoting changes of attitudes in people with whom he works. For example, promoting an attitude on the part of a client or counterpart which will ensure that he uses a skill that the Volunteer has trained him to perform.

3) Psycho-motor- psychomotor activity involves the use of the skeletal, muscular and voluntary nervous systems. They are physical activities like swimming, running, using a tool, driving a dump truck, etc.

In summary, when constructing a task analysis for a Volunteer job, you should be certain that all technical tasks, all cross-cultural tasks, and all language tasks are included. Within each of these areas you should ensure that you have included all tasks which are cognitive, all tasks which are affective, and all tasks which are psychomotor. Most important, each of them should be written in a way that will clearly indicate the level in the domain that is required. This is essential if training objectives are to be written at the level of Volunteer performance.

The next element of content is to rank-order tasks. A simple scheme for doing this is to determine what the importance of each task is, how frequently each task must be performed, and how difficult each task is to learn.

For importance you might employ a simple scale like:

1 = most important, critical
2 = moderately important
3 = marginal or unimportant

For frequency of importance you might use terminology like:

1 = Daily, or more often
2 = Several times a week
3 = Weekly
4 = Monthly
5 = Occasionally
6 = Seldom

Difficulty of learning could be described as:

0 = Impossible
1 = Extremely difficult
2 = Difficult
3 = Moderately difficult
4 = Easy

When you have ranked the tasks in terms of these three criteria, it should be relatively simple to rank-order them in order of total importance to training.

C. Technique - the steps in conducting a task analysis are:

1) Preparing an outline (job description)
2) Identifying a source or sources
3) Conducting an interview or interviews
4) Organizing the data
5) Validating the data

To discuss these individually:

1) Preparing an outline - using your information about the job area and categorizing it in terms of:

Technical	Language	Cross Culture
Cognitive	Cognitive	Cognitive
Affective	Affective	Affective
Psychomotor	Psychomotor	Psychomotor

Prepare an outline, along the lines of a skeletal job description. This outline will indicate the areas in which you must identify the tasks which comprise each aspect of the job.

2) Identifying a source or sources - essentially there are three types of sources:

a) Someone doing the actual job
b) Someone who knows about the job, e.g., a supervisor
c) Yourself.

The best possible source is someone who is actually doing the job. He knows better than anyone else <u>what</u> he actually <u>does</u>.

The second best source is someone who knows about the job, for example, supervisory personnel. Be aware, however, that you will get some information about what someone doing the job ought to be doing, rather than what he actually does. Working with host agency personnel, you may have to eventually reconcile thesedifferences. With a well researched and organized task analysis you at least have a useful tool in conducting this type of negotiation.

The third, and least reliable source, is yourself. Youwill have your own biases about what the job should entail. Because we are Americans out of our own cultural water, it is likely that these biases might lead us fairly far astray.

In doing your task analysis you should try to identify Volunteers and/or host country personnel who are actually doing the job. In the absence of such personnel, a supervisor is probably next best. As a general rule of thumb, more than one source is preferable as you will get more than one perspective on the job. In many instances host country sources will deal primarily with technical tasks, though they may also be able to provide some insight into cross-cultural and language tasks that are essential. For the latter two types of tasks, a Volunteer in the field, even if he isn't doing your type of technical job, is probably the best source as he is engaged in doing language and cross-cultural tasks most of the time.

3) Conducting an interview - the conducting of an interview is a fairly specialized skill and depends to some extent on your own personality and that of the person you interview. We would suggest a few guidelines that may be of help:

a) Introduce yourself and give the person a chance to do likewise. Enjoy any social amenities that seem appropriate.

b) Explain the purpose of your interview, that is that you are trying to determine what he does (if interviewing someone who actually performs a job identical or similar to yours), or what he thinks someone in your position does or should do (if you are working with a supervisory type). The operative word is DOES. While background information is useful and interesting, it doesn't tell you what the Volunteer will do. It only indicates the conditions under which he will do it. By the same token, information on what the person knows, or the Volunteer should know, doesn't tell you what he will have to do. Stress that you are trying to find out what someone in the job actually does and has to do.

c) Ask the person for a general outline of what he does and his duties. Note anything that doesn't appear in your outline as well as things in your outline that aren't mentioned by the source.

d) The job description should give you some major task areas. Take each one

and attempt to elicit statements stated behaviorally about what he does in this area. For example, you might receive an initial answer like: "I work with teachers." This, obviously, is subject to any number of interpretations. Your goal is to elicit a statement or set of statements that indicate with relative precision what the person who works with teachers actually does, stated in a way that you, he, and anyone else who reads the task analysis, would share a mutual understanding. You might ask: "What do you do when you work with teachers?" or "What does working with teachers involve?" or "Can you explain the different things working with teachers requires you to do?" or "Does that mean you teach with them in the same classroom, or supervise their teaching or ...?" What you are looking for are statements like:

"I help teachers to produce lesson plans, by reviewing and critizing them and making alternative suggestions."

"I team teach with one teacher."

"I do the time and attendance reports for all the teachers in the school."

"I design training programs for in-service teachers and conduct and evaluate them."

e) You should continue to try to refine statements until you obtain a statement or set of statements for which further elaboration would, essentially, involve the set of steps involved in performing that task.

f) Keep in mind that many people whom you interview will provide information in a stream of consciousness and you will have to organize this data yourself. One way to facilitate this is to record tasks on 3x5 cards and organize them in accordance with your outline scheme. When the source has completed his recitation of tasks, review each section with him to determine whether he might have omitted something.

g) Next, try to determine the level of skill required. In the cognitive area, there are six different levels of increasing sophistication:

Knowledge - essentially memory or recall,
Comprehension - translation, interpretation or extrapolation from things memorized
Application - applying a rule or set of rules to a unique situation(s).
Analysis - determining the parts of a whole and their relationship to one another
Synthesis - creating a unique product from previously unrelated data, information, materials, etc.
Evaluation - applying criteria to determine whether such a product meets them.

In the Affective there are five levels:

1. Receiving
2. Responding
3. Valuing
4. Organization
5. Characterization

h) Next, go over each of the tasks to determine its importance, frequency

and difficulty of learning. It is important to wait until this stage as this is the point when the source has produced all the tasks and his judgements on their relative importance, frequency and difficulty will be far more accurate.

4) Organizing the data - your outline has already produced the first organizational tool. You should have groups of tasks in each of the three basic areas which you can identify as cognitive, affective and psychomotor. The second step would be to determine overlapping tasks. For example, in working with farmers in extension work, several of the steps in the approach would be similar - only the content of information would differ. The third step is to look for common cognitive, affective and psychomotor skills. You may find, for example, that application of a certain method is common to many of the tasks;or that a good many tasks involve analysis -though a slightly different situations. All three of these criteria provide potential ways of organizing the tasks logically.

5) The outcome of organization should be a comprehensive list of tasks presented in logically coherent categories. Once this list is compiled and rank-ordered in terms of importance, frequency and difficulty, you would then discuss it with your source or sources. They may suggest changes in the ordering and/or the addition or deletion of tasks. Once this process is completed, you have a final task analysis for the job.

How do you use thetask analysis?

If you are doing the task analysis in order to design a formal or informal training program for students, counterparts or clients, you would first attempt to assess how many, if any, of the tasks that individual or individuals can perform. This might be done in PRIST for example. You would also attempt to determine whether they had the skills prerequisite to performing those tasks (for example, if you are trying to train a heavy equipment operator, you would want to find out whether he can drive anything). Next, you would set objectives, determine a sequence of training units and the ways and means of meeting the objectives. Last, you would devise ways of determining whether the individual had met the objectives.

In this way your instruction of Volunteers will be relevant to the job and will develop the skills that you or others need to perform it satisfactorily as well as to continue to improve those skills.

1
Mager, Robert, Developing Vocational Instruction, Palo Alto, Fearon Press.

Sample
Volunteer Job Description

Lusitania Cattle Development

III. E. 1. Dairy Extension Worker

2. Volunteers in this program will be assigned to the Lusitania Department of Animal Husbandry which is responsible for dairy development in the country. Overall responsibility for the program lies with the Joint Director, Intensive Dairy Development Program, whose headquarters is in the District where the Volunteers will be assigned. In the District there are four Regional Artificial Insemination Centers, each of which is directed by a Veterinary Assistant Surgeon. The VAS will be the Volunteer's supervisor. There are 25 Village Insemination Centers attached to each Regional AI Center. These are manned by Livestock Assistants. The Volunteer's clients will be composed of farmers owning dairy cattle.

The core of the Volunteer's job will be in extension work with farmers identified as innovators and early adopters of scientific dairy management methods. The Volunteer will introduce innovations in breeding, feeding, management, disease prevention and cure and marketing of milk and milkproducts and will attempt to develop both new technical skills and a positive attitude towards their adoption by client farmers. On occasion the Volunteer may be called on to collect semen from stud bulls, and to prepare liquid semen diluent, evaluate semen and perform inseminations.

The primary focus of the Volunteer's efforts will be the transfer of his skills to those of his Livestock Assistant Counterpart. This will involve both systematic technical training - primarily informal - and work with attitudes. The ultimate objective is that the counterpart will possess the skills outlined in the task analysis described below and will demonstrate a consistently positive attitude towards employing those skills.

Volunteers will be working with Zebu cattle which are primarily draft animals. Imported Jersey stud bulls provide the genetic material for cross-breeding for milk production. Liquid semen,

which is less viable than frozen, is used. Its viability can be negatively affected by the climate and the methods of production and transportation. The equipment for collection, dilution and transport of semen are considerably below US standards as are the skills of those responsible for this work. Feedstuffs are of limited availability and quality, although there is both the potential for production of improved fodders and concentrates. Necessary inputs are available at a subsidized rate within the range of most farmers. Management of dairy stock is now relatively primitive and while there is possibility for improvement, the potential for modern management falls far short of what is possible in the US. Disease problems are endemic in the area, however, virtually all necessary veterinary pharmaceuticals are available. Diagnostic skills of some Department personnel are presently sub-standard. Markets for milk and milk products are presently undeveloped and most production in the area is presently consumed in the home. Some facilities for marketing do exist and investigations by the National Dairy Research Institute suggest that considerable expansion is possible. The most important limitations faced by the Volunteer are cultural. Commercial production of milk has not yet been accepted by the Majority of farmers who are primarily concerned with the draft qualities of their livestock. By the same token, the motivation of counterparts is negatively effected by both this factor and by the low income which they receive. Last, English skills of counterparts and clients are limited or non-existent. The Volunteer must perform his job using Lusitanian.

VOLUNTEER TASK ANALYSIS

Lusitania Cattle Development

	Imp.	Freq.	Diff.
TECHNICAL			
I. **Extension** -- Volunteer will:			
A. Identify classes of adopters, innovators, early adopters, early majority, late majority, lagards who own cattle.	1	4	2
B. Determine the stage of innovation individual farmers have reached in acceptance of improved breeding, feeding, management, disease prevention and treatment, and produce marketing.	1	3	2
C. Select target farmers based on degree of innovativeness and promote innovations in a manner consistentwith the stage of innovation reached.	1	3	2
(N.B. These tasks will be performed on the basis of communication of innovation theory adapted to farmer characteristics in Lusitania)			
II. **Breeding** -- Volunteer will:			
A. Identify cows in heat and the state of heat.	1	2	4
B. Determine proper time/times for insemination.	1	2	4
C. Perform artificial inseminations using liquid semen, syringe and glass pipettes (sterlize pipettes).	1	3	3

D. Collect semen from trained bulls.	2	4	2
E. Using a microscope, evaluate semen for motility, density, normality.	2	4	4
F. Dilute semen using coconut milk diluent or citrate diluent.	2	4	3
G. Using a microscope, evaluate diluted semen for motility, density, normality.	1	2	4
H. Establish and use breeding records including:			
1) cow's ear tag number			
2) stud bull's ear tag number			
3) date of insemination			
4) 21-day follow-up			
5) 3 month pregnancy check			
6) pre-parturition check			
7) calving date			
8) sex and breed of calf			
9) progeny production records	1	1	4
I. Use plastic ear tags to identify inseminated cows and progency calves:			
1) use ear punch	2	2	4
2) insert and fasten tags	2	2	4
J. Follow-up insemination at 21 days and determine whether cow has settled.	1	2	3
K. Determine pregnancy at three months by rectalexam.	1	2	2
L. Prior to parturition determine:			
1) health of cow (disease/nutrition)	2	4	3
2) potential parturition problems	2	4	3

M. Identify, diagnose and treat sterility problems:			
1) caused by nutritional deficiencies	2	4	3
2) caused by disease	2	4	3
N. Assist in delivery of calves when required (as identified in L.2.)	3	5	2
O. Recommend pure-bred sires for cross-bred breeding heifers.	2	4	3
III. Feeding -- Volunteer will:			
A. Wean calves	1	2	4
B. Determine composition of economical milk substitutes from locally-available commodities.	1	4	2
C. Calculate economic calf-starter and growing rations from locally-available commodities	1	4	2
D. Calculate economical rations using locally available commodities for:			
1) heifers 2) pregnant heifers/cows 3) milking stock (based on production levels) 4) stud bulls	1	4	2
E. Advise farmers on cultivation of lucerne, berseem, fodder maize and sorghum, guinea grass, hybrid napier and hemp.			
1) select appropriate crop in terms of season, soil, water sources, estimated cost/return. 2) take soil samples	3	4	4

3) recommend tillage practices.	3	5	4
4) interpret soil test results.	3	4	2
5) recommend seed/fertilizer rates and placement.	2	4	4
6) recommend timing/method of irrigation.	1	3	3
7) assist farmers to obtain loans for inputs.	1	4	4
8) assist farmers to obtain seed, fertilizer, plant protection equipment and chemicals.	1	3	4
9) diagnose insect and disease problems and recommend appropriate measures. (see attached list for common pests and diseases in Lusitania).	1	2	2
10) recommend proper timing for cutting fodder:			
a) for feeding	1	3	3
b) for sileage	1	3	3
11) recommend and demonstrate proper method of pit sileage preparation.	2	4	3
F. Diagnose nutritional deficiencies in animals and recommend corrective measures.	1	3	3
G. Recommend proper quantities and methods of providing water and mineralized salt based on animal weights and climatic conditions.	1	2	4
IV. Management -- Volunteer will:			
A. Using local materials design and construct economical model cattle sheeds and calf pens which:			
1) protect animals from environment			
2) meet minimal sanitation requirements	3	5	2

B. Determine feasible timings/methods for exercising livestock.	3	5	4
C. Design and recommend methods of improving sanitation.	1	2	4
D. Design, recommend and construct model economical equipment using locally available materials:			
1) feed troughs 2) water troughs 3) salt licks 4) milking stalls	2	4	4
F. Identify and recommend appropriate bedding materials.	3	4	4
F. Recommend efficient/sanitary composting for manure.	1	3	3
G. Recommend fly and tick controls	1	2	4
H. Dehorn calves	1	3	4
I. Castrate scrub bulls	1	5	2
J. Trim hooves	3	4	3
V. <u>Disease Prevention Control and Cure</u> -- Volunteer will:			
A. Vaccinate cattle for:			
1) anthrax 2) brucellois 3) bovine tuberculosis 4) rinderpest 5) hoof and mouth disease (depending on disease, vaccination will be intramuscular or subcutaneous. Vaccines are obtained from veterinary dispensary.)	1	3	3

B. Set up and conduct worming programs for cross-bred calves.	1	3	4
C. Spray cattle for ticks, lice, fleas and flies.	1	4	4
D. Diagnose and treat or recommend culling of diseased livestock. (see attached lists of disease and available recommended veterinary pharmaceuticals)	1	2	1
E. Obtain veterinary pharmaceuticals from veterinary dispensaries and/or local stockists (see attached list)	2	3	4
F. Treat cuts, sores, and wounds.	2	2	4
G. Treat bloat (using long-bladed knife).	1	5	3
VI. Marketing -- Volunteer will:			
A. Recommend and demonstrate and train farmers in techniques of sanitary milk collection and storage.	1	3	4
B. Test milk for butterfat, non-fat solids and adulteration.	2	4	3
C. Design and demonstrate use of economical milk storage facilities.	3	5	4
D. Recommend and demonstrate sterilization of milk by boiling.	1	4	4
E. Train farmers to make milk-based products (see attached list)	2	4	3
F. Identify locally accessible markets and assist farmers to individually and collectively negotiate contracts.	2	4	2

G. Design and train farmers to use a simple record of expenditure and income.	2	4	2
H. Design/write materials to promote use of milk and milk products and arrange printing and/or publication of these materials.	2	5	3
VII. Skill Transfer -- Volunteer will:			
A. Do task analysis for jobs of counterparts and clients.	1	4	3
B. Establish learning objectives for counterparts and clients.	1	4	3
C. Accurately determine skill and attitude levels of counterparts and clients.	1	4	2
D. Design learning activities which promote the achievement of established objectives.	1	4	2
E. Design and apply interim and post-evaluation devices to determine progress and success in achieving the objectives set. When necessary, modify/improve objectives and/or instruction.	1	4	3
F. Design and conduct field evaluation to determine both relevancy of task analysis and training efficiency.	1	4	3
CROSS CULTURAL			
I. Problem Solving -- Volunteer will:			

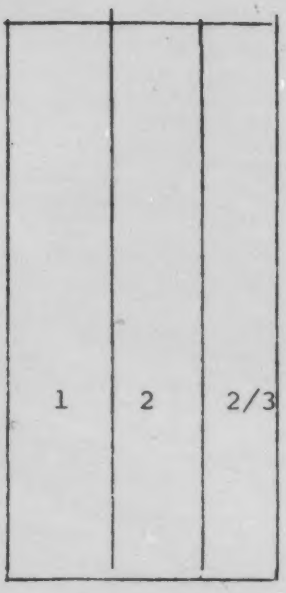
A. Solve problems in terms of himself, other people, the physical and cultural environments. This involves:			
1) identifying needs and values of others	1	2	1
2) identify his own needs and values	1	1	1
3) perceive the cultural and physical environment-its potential and limitations -- accurately, i.e. as perceived by the majority of people living in that environment.	1	1	1
4) use a systematic approach to problem solving.	1	2	2
II. Communication -- Volunteer will:			
A. Set realistic goals that are consistent with physical and cultural environment.	1	3	2
B. Use a systematic approach to communication/skill transfer (see above).	1	2	3
C. Employ a communication process that effectively accounts for and is sensitive to both what he transmits to others transmit to him-verbally and non-verbally.	1	1	1
III. <u>Goal Setting</u> -- Volunteer will:			
A. Set realistic goals that satisfy his physical and emotional needs and which are consistent with the physical and cultural environment.	1	3	2

LANGUAGE

I. Usage/Manipulation -- Volunteer will, with increasing:			
A. Master pronounciation such that speech is intelligible to native speakers.	2	1	3
B. Engage in polite conversation on a variety of subjects including:	2	1	2/3
1) greetings and "openers".			
2) living site/conditions, family members, marital status, etc.			
3) offering and receiving drinks, smokes, chews, etc.			
4) weather, time, health, food likes/dislikes, colors, numbers,			
5) job-related subjects such as:			
a. breed/age/sex of cattle			
b. physical characteristics of cattle			
c. farm implements/equipment			
d. major crop			
e. cattle diseases and treatment			
6) "closings" and farewells			
II. <u>Elicitation and skill development</u> -- Volunteer will:			
A. Elicit language data including:	2	2	2/3

1) sounds
2) words, word roots, word stems and affixes
3) phrase and sentence structure

B. Using elicited/recorded data, organize systematic and productive language exercises using a trained of untrained guide/informant and normal communication experiences.



TASK ANALYSIS

DEGREE OF IMPORTANCE

EXTREMELY = 1
MODERATELY = 2
MARGINAL = 3

FREQUENCY OF PERFORMANCE

DAILY = 1
DAILY TO WEEKDAY = 2
WEEKLY TO MONTHLY = 3
OCCASIONALLY = 4
SELDOM = 5

LEARNING DIFFICULTY

EXTREMELY = 1
VERY = 2
MODERATELY = 3
EASY = 4

SAMPLE

Preconditions Check List

Lusitania Cattle Development

TASK	Preconditions	Pres.	Ab.	Promised
II. A. Identify cows in heat and stage of heat	1. fertile cows	x		
B. Determine proper time/times for insemination	1. fertile cows	x		
C. Perform artificial inseminations using liquid semen, syringe, glass pipettes	1. fertile cows			
	2. stud bulls(trained)	x		
	3. artificial vaginas	x		
	4. bull rack	x		
	5. microscope/slides	x		
	6. diluents	x		
	7. antibiotics	x		
	8. pH meter		X	
	9. colorimeter		X	
	10. autoclave			x
	11. syringes	x		
	12. glass pipettes			x
	13. transportation			x
	14. thermos/ice			x
	15. interested cattle owners	x		
	16. protective gloves	x		
D. Collect semen from trained bulls	see II.C. 2-4			
E. Using microscope, evaluate semen for motility, density, normality	see II.C 5			
F. Dilute semen using coconut milk or sodium-citrate diluent	see II.C. 6-10			

Preconditions Check List

TASK	Preconditions	Pres.	Ab.	Promised
G. Using a microscope, evaluate diluted semen for motility, density, normality.	see II.C. 5			
H. Establish and use breeding records:	1. stud bulk identifications	x		
	2. ear tags			x
	3. ear punches			x
	4. printing facilities	x		
	5. farmers trained to record/report data		X	
	6. interested cattle owners	x		
I. Use plastic ear tags to identify inseminated cows and progeny claves	see II.H. 2-4,6			

Training Objectives

Training Objectives are derived from the task analyses and task detailing. They tell the trainer what it means to be a Volunteer in a particular job and country, i.e., it gives the trainee criteria for determining what it means to him. They enhance the chances for success, provide a set of documents that state what was attempted in training which in turn provides a basis for determining what went right or wrong.

Program or terminal objectives generally derive from the task analysis and en-route objectives from detailing of tasks. To be operationally useful in training objectives must be:

I. behaviorally stated:

Briefly, a behavioral objective is a way of describing the objectives of a training program in performance terms, i.e., in terms of what the trainee must be able to do at the end of training.

A behavioral objective must be stated clearly and precisely so that anyone who reads it will know exactly what the desired outcome of the training program is. By ensuring this precision, at the end of the training program, everyone can easily agree on whether or not the objectives of the program have been achieved.

The criteria for a Behavioral Objective are:

a) the trainee should be the subject, i.e., it should read: "The trainee will (be able)..., "You will (be able)...

b) it should specify what the trainee will be able to do at the end of training;

c) it should include an observable measurable action.

II. appropriate in terms of domain (cognitive, affective or psychomotor) and the level within the domain:

Briefly - the domains and the levels (or hierarchies) within the domains represent a classification of objectives which has proven markedly helpful in insuring the accuracy of communication and in understanding the organization and interrelationship of the various parts of what the Volunteer must be able to do.

In outline the three domains and levels or hierarchies within the domains in this classification of objectives are:

Cognitive	Affective	Psychomotor
1. Knowledge	1. Receiving	1. Perception
2. Comprehension	2. Responding	2. Set
3. Application	3. Valuing	3. Guided Response
4. Analysis	4. Organization of a value system	4. Mechanism
5. Synthesis	5. Characterization by a value complex	5. Complex Overt Response
6. Evaluation		

(This refinement of the Domains is based on the Taxonomy of Educational Objectives, Handbook I; Cognitive Domain, and Handbook II; Affective Domain by Benjamin S. Bloom and others, David McKay Company, New York.)

III. faithful to the task on which it is based: - including any significant conditions of performance.

Why Use Behavioral Objectives?

The main advantage of BEHAVIORAL OBJECTIVES is their exactness in giving direction to a training course. By knowing exactly where you want to go, it is easier to determine how to get there.

Clearness of goals also makes it easier for trainers to communicate among themselves and work cooperatively on a training program, since each of the trainers can agree on exactly what outcome is desired and can work to achieve it. Thus each trainer can support the achievement of another trainer's objective, even while teaching his own.

Behavioral Objectives are action-oriented and thus ideal for Peace Corps training, vocational school teaching, and in-service job training.

Behavioral objectives are people-oriented, since they focus the trainer on constantly trying to improve the course as it goes along and to improve the training inputs from one course to the next.

Behavioral Objectives are responsibility-oriented, since they encourage both the trainer and the trainee to take the responsibility for achieving the objectives of the training.

Why Use the Taxonomy?

A program was designed with a number of tasks that involved tractor operation. A major element in tractor work is comprised of psychomotor tasks. Unfortunately training was largely classroom work involving intellectual--cognitive--exercises. Not surprisingly few of the trainees could operate a tractor at the end of training.

In another program Volunteers were expected to work with crop production. In training they spent considerable periods of time working in the fields; plowing land, planting seeds by hand, weeding, etc. Their classroom work involved memorizing the package of practices for each of the 10 major crops grown in the area. When they arrived in their assignments they found that they were not required to do any physical work (despite the fact that a major training input involved this type of psychomotor activity) and that while it was useful to have memorized seed and fertilizer rates, plant protection schedules and the like, what they really were required to do was solve--or help solve--relatively complex problems involving soil types, seasons, water sources, input costs and market prices. Had both the original task analysis and the training objectives reflected the appropriate domain and level, they would have

spent far less time with psychomotor and low level cognitive skills and far more time developing skills in problem-solving.

The three domains and their division into levels is the work of educational psychologist who have invested a great deal of time and effort in the process of defining and testing these divisions. The most significant--and for Peace Corps purposes, the most relevant--work has been done with the cognitive and affective domains.

The levels in these domains describe a continuum of increasingly sophisticated activity. The definitions are arbitrary and may differ from those individuals are accustomed to using. Nonetheless, once learned they offer an extremely useful tool for precisely identifying the level of cognitive or affective behavior required of a Volunteer in the field. They can be used both in the task analysis process, in establishing training objectives, and in sequencing learning activities during the course of training.

The Cognitive Domain. There are six (6) levels in the cognitive domain. These include:

1. Knowledge
2. Comprehension
3. Application
4. Analysis
5. Synthesis
6. Evaluation

Knowledge level objectives include memorization or recall. If you think of the mind as a file, it is analagous to pulling the right information out of the file. An example of a knowledge objective would be:

> The trainee will list the steps in the program-training system.

Knowledge level objectives should seldom find their way into Peace Corps training programs. It is extremely unusual for

Volunteers to perform tasks that simply require memory. Training time can be used far more efficiently by providing handouts which contain this information rather than attempting to promote its memorization. (A glance at Peace Corps training reports will suggest that the vast majority of objectives written for these programs are knowledge objectives. Not surprisingly, both training staff and trainees soon recognize the inherent absurdity of these types of objectives.)

Comprehension level objectives require minimal manipulation of learned information. Examples are putting something into your own words; translating; extrapolating from given information; etc. An example would be:

> The trainee will define "comprehension" in his own words.

Or:

> Given a paragraph of French from a newspaper article, the trainee will translate it into English with 80% accuracy of tense and vocabulary.

Application level objectives involve using learned rules, steps or an approach with new data. An illustration would be:

> Using the pythagorean formula, the trainee will calculate the distance between 806 Connecticut Avenue and the White House.

Or:

> Given the criteria for identifying a teaching-learning principle, the trainee will select those examples which meet these criteria from among a set which contains distractors.

Analysis level objectives require the trainee to break down a whole into parts, identify the relationships between those parts and the whole. An example:

> After participating in an agriculture department meeting, the trainee will correctly identify the relationships of the participants both in terms of their formal and informal roles.

Synthesis objectives are analagous to creating something unique, whether it be a plan, a poem, a method of evaluating data, etc. An example might be:

> Given information on extension principles and the cultural characteristics of host country housewives, the trainee will design an approach to promote adoption of water seal latrines in the community.

Evaluation level objectives require the use of criteria--whether developed by the individual or standardized--to determine the worth or validity of a particular product or action. An illustration of an evaluation objective would be:

> Given several approaches to solution of a problem and necessary background information, the trainee will identify the best possible solution and state the reasons for his choice.

After briefly reviewing these levels of objectives, it should be clear that Peace Corps terminal training objectives should generally be at the application, analysis, synthesis and evaluation levels. Most important Volunteer tasks require these skills. They seldom require knowledge or comprehension. By using the tools of the cognitive domain, trainers can write objectives which precisely identify the level of skill required. By doing so, it is far more likely that the trainees will be able to perform tasks at this level once they reach the field.

The Affective Domain. It is not sufficient that Volunteers be able to perform a task at the required level. They should also demonstrate a willingness to do so. By the same token, when Volunteers are involved in the skill transfer process, it is not enough to merely develop a skill. Their counterpart or client must value that skill sufficiently that he will attempt to use it. The affective domain describes a continuum of behavior in the area of attitudes, beliefs and values. If we, in fact, wish to promote certain attitudes among trainees, if we want them to do likewise with clients and counterparts, and if we want them to make rational decisions that involve the interplay of beliefs and values, then the affective domain is an invaluable tool.

The levels in the affective domain are:

1. Receiving
2. Responding
3. Valuing
4. Organization
5. Characterization

The continuum represents a passage from neutral to positive, passive to active, non-rational to rational. At the 3, 4, and 5 levels, it represents increasingly stable behavior in terms of conceptualized and organized values.

Affective objectives, like cognitive objectives, can be written in behavioral terms. We do, if you think about it, judge the attitudes and values of others by their actions. An example (at the valuing level) would be:

> The trainee will demonstrate commitment to language learning by: 1) spending spare time with language staff speaking in the target language;
>
> 2) choosing to speak the target language even when it is possible to use English;
>
> 3) attempting to convince other trainees of the importance of learning the target language and assisting them in their efforts.

By stating specifically the type of attitudinal behavior the staff feels important, this information is clear to the trainee and the staff has a clear idea of what they are trying to promote--and thus has a better chance of succeeding in this effort.

Objectives and the Qualification Process

Terminal training objectives, based on task analyses, and meeting the criteria suggested above, can and should be used as minimal qualifying standards. By stating these objectives at the beginning of training, host country agency officials, Peace Corps country staff, trainers and trainees, all have a clear and objective statement

against which to measure performance. If done with care and responsibility, this can eliminate in large measure the subjectivity--and resultant trainee anxiety--which often accompanies the qualification process. (See section 5.1 Qualification).

Summary

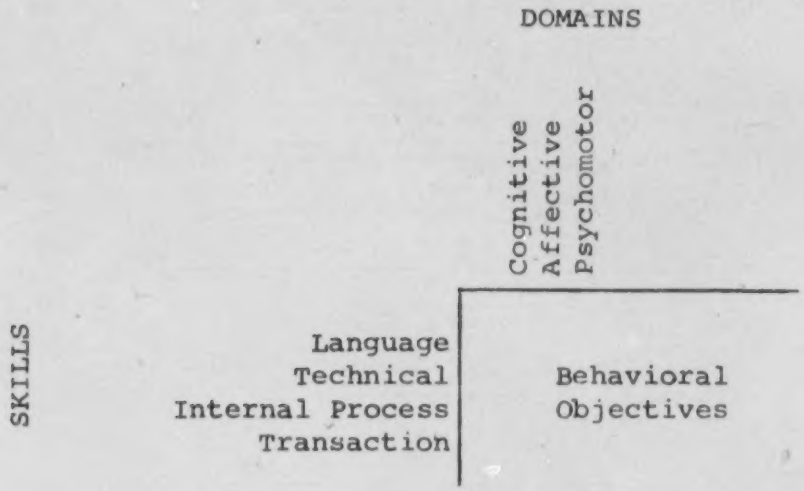
If we want a Volunteer to synthesize and evaluate, or more accurately, if the task requires certain levels of skills, we will succeed only if we write objectives in those terms. By the same token, if we determine the successful performance of the task requires preference for a value or commitment to a value or values, then we can only succeed if these are the affective objectives we stated and design activities to achieve.

Behavioral objectives developed in isolation from task analysis and the rest of the system may have a negative effect. If a task analysis has not been done then the trainers must make every effort to develop one themselves. All too often objectives are prepared in isolation according to a formula, e.g., "objectives should contain an action verb, be comprehensive, open to few interpretations and include the means for measuring the learner's success." This normally results in objectives written at a low level of cognition, e.g., the trainees must or be able to list the parts or a tractor or name the fifteen states of Malaysia." As objectives, such regurgitation is not only monotonous but ludicrous because they are not based on the tasks a Volunteer must do. These are almost always of a higher level. In fact application may be the lowest level a Volunteer has to deal with in the cognitive domain. Often they are expected to analyze, synthesize and evaluate. In terms of the affective domain, Volunteers must deal at the level of valuing and organizing a value system, e.g., they often deal with a conflict between their values and those of the host environment.

While there has been considerable interest in writing behavioral objectives in integrated terms, i.e., integrating technical, cross cultural and language objectives, little success has been achieved. While this may in theory be a good idea, it generally is not in practice because we need categories to pursue in developing goals. To be operationally successful, we need to at least begin with these traditional categories in writing

goals which can be integrated later in terms of the actual goals of learning activities. In fact, the same holds true for the domains. Few activities are purely cognitive, however thinking in terms of these domains aids the program-training process by providing a conceptual framework and check list.

The following is an attempt to illustrate this conceptual, and operationally useful, framework for developing objectives.



"Internal process" and "transaction" have been added to the skill side as examples of the fact that "cross cultural" tasks may be the least well defined. These classification represent an attempt to define an area of behavior expected of the Volunteer which goes beyond a limited, traditional or area studies definition of cross cultural training. The traditional cross cultural training track represents the area of one of the more useful applications of the three domains. The hierarchy of the affective domain has proven to be an extremely useful tool in defining Volunteer tasks and training goals in an area of behavior where expectations have been the most difficult to communicate. For instance, one task most Volunteers must perform is resolution of a conflict between the personal values they import and those of the host environment. Defining this is facilitated by the use of this tool. Training for it is facilitated by it having been defined.

HOW THE USE OF BEHAVIORAL OBJECTIVES CAN HELP THE PEACE CORPS TRAINER

Behavioral Objectives:

1. Facilitate instructional design and development by providing clear goals to work toward.

2. Facilitate curriculum development--sequencing, eliminating gaps and overlaps.

3. Promote more efficient communication between trainers, Peace Corps staff, trainees, and researchers.

4. Make it evident what trainees actually learn, thereby permitting selection of most important goals.

5. Permit instruction to be evaluated and thereby improved.

6. Promote individualized instruction by making possible criterion-referenced evaluation--each trainee can be required to master all objectives. (Independent learning is also promoted.)

7. Permit trainees to be more efficient learners, when they find out what is expected of them.

8. Eliminate the time wasted when trainees can already achieve all or some objectives before beginning a course.

9. Tend to impose a philosophy of <u>trainer responsibility</u> for getting students to master objectives.

10. Promote the idea of behaviorally analyzing all components of instruction--entry behavior, intermediate behavior, and terminal behavior.

11. Facilitate research in training--advance instructional technology.

12. Promote a new role for trainers--instructional designers, managers, and resource specialists as opposed to information dispensers.

THE THREE DOMAINS OF THE TAXONOMY OF EDUCATIONAL OBJECTIVES

Cognitive

1. Knowledge
2. Comprehension
3. Application
4. Analysis
5. Synthesis
6. Evaluation

Affective

1. Receiving
2. Responding
3. Valuing
4. Organization of a value system
5. Characterization by a value complex

Psychomotor

1. Perception
2. Set
3. Guided response
4. Mechanism
5. Complex overt response

THE COGNITIVE DOMAIN

1.00 KNOWLEDGE
- 1.10 Knowledge of Specifics
  - 1.11 Terminology
  - 1.12 Specific Facts
- 1.20 Knowledge of Ways and Means of Dealing With Specifics
  - 1.21 Conventions
  - 1.22 Trends and Sequences
  - 1.23 Classifications and Categories
  - 1.24 Criteria
  - 1.25 Methodology
- 1.30 Knowledge of Universals and Abstractions In A Field
  - 1.31 Principles and Generalizations
  - 1.32 Theories and Structures

2.00 COMPREHENSION
- 2.10 Translation
- 2.20 Interpretation
- 2.30 Extrapolation

3.00 APPLICATION

4.00 ANALYSIS
- 4.10 Of Elements
- 4.20 Of Relationships
- 4.30 Of Organizations

5.00 SYNTHESIS (Production of something new)
- 5.10 Production of a Unique Communication
- 5.20 Development of a Plan, or Proposed Set of Operations
- 5.30 Derivation of a Set of Abstract Relations

6.00 EVALUATION
- 6.10 Judgments in Terms of Internal Evidence
- 6.20 Judgments in Terms of External Criteria

SUMMARY DESCRIPTION OF THE COGNITIVE DOMAIN OF THE TEXONOMY

1.00 KNOWLEDGE

Knowledge, as defined here, involves the recall of specifics and universals, the recall of methods and processes, or the recall of a pattern, structure, or setting. It involves little more than bringing to mind the appropriate material. Alteration of material is rarely required. To use an analogy, if one thinks of the mind as a file, the problem in a knowledge test situation requires finding in the problem the appropriate signals or cues which will most effectively bring out whatever knowledge is stored.

1.10 Knowledge of Specifics

The recall of specific and isolable bits of information. This is the elements of which more complex forms of thinking are built.

**1.11 Knowledge of Terminology

Knowledge of specific symbols--verbal and non-verbal. This may include knowledge of generally accepted symbols or the variety of symbols which may be accepted for one referent, or knowledge of the most appropriate referent appropriate to the symbol.

**1.12 Knowledge of Specific Facts

Knowledge of dates, events, persons, places, etc.

1.20 Knowledge of Ways and Means of Dealing with Specifics

Knowledge of ways of organizing, studying, judging, and criticizing. This includes methods of inquiry, the chronological sequences, and standards of judgement in a field.

**Knowledge of Conventions

Knowledge of characteristic ways of treating and presenting ideas and phenomena. Knowledge of the usages, styles, practices with which people deal with phenomena.

. Krathwohl, David R. Bloom, Benjamin S and Masia Bertram B., Taxonomy of Educational Objectives Handbook I, Cognitive Domain, New York. David McKay Company Inc., 1956.

**1.22 Knowledge of Trends and Sequences

Knowledge of the processes, directions, and movements of phenomena with respect to time.

**1.23 Knowledge of Classifications and Categories

Knowledge of the classes, sets, divisions and arrangements which are regarded as fundamental for a given subject field, purpose, argument or problem.

**1.24 Knowledge of Criteria

Knowledge of the criteria by which facts, principles, opinions and conduct are tested or judged.

**1.25 Knowledge of Methodology

Knowledge of the methods of inquiry, techniques and procedures employed in a particular subject field as well as those employed in investigating particular problems. The emphasis is on an individual's knowledge of the method rather than his ability to use the method.

1.30 Knowledge of the Universals and Abstractions in a Field

Knowledge of major schemes and patterns by which phenomena and ideas are organized. Knowledge of the large structures and theories of a subject field.

**1.31 Knowledge of Principles and Generalizations

Knowledge of the particular abstractions which are of value in explaining, describing, predicting, or in determining the most appropriate and relevant action or direction to be taken.

**1.32 Knowledge of Theories and Structures

Knowledge of the body of principles and generalizations together with their interrelations which present a clear, rounded and systematic view of the complex phenomena, problems of a field.

2.00 COMPREHENSION

This represents the lowest level of understanding. It means the individual knows what is being communicated and can make use of the material without relating it to any other material, or without seeing its full implications.

**2.10 Translation

Comprehension as evidenced by the care and accuracy with which a communication is paraphrased or rendered from one language or form of communication to another. Translation is judged on the basis of faithfulness and accuracy.

2.20 Interpretation

Interpretation is the explanation or summarization of a communication. This requires a reordering, rearrangements, or new view of material.

**2.30 Extrapolation

The extension of trends or tendencies beyond the given data to determine implications, consequences, corollaries, effects, etc., which are in accordance with the conditions described in the original data.

DESCRIPTIVE VERBS

Translates, converts, defends, distinguishes, estimates, explains, extends, interprets, generalizes, infers, gives examples, extrapolates, paraphrases, predicts, rewrites, summarizes.

**3.00 Application

The use of abstractions in particular and concrete situations. The abstractions may be in the form of general ideas, rules of procedures, or generalized methods. The abstractions may also be technical principles, ideas and theories which must be remembered and applied.

DESCRIPTIVE VERBS

Changes, computes, demonstrates, discovers, manipulates, modifies, operates, predicts (from a rule), prepare, produces, relates, shows, solves, uses.

4.00 Analysis

The breakdown of a communication into its constituent elements or parts such that the relative hierarchy of ideas is made clear and/or the relations between the ideas expressed are made explicit. Analysis tends to clarify the communication, indicate how the communication is organized.

**4.10 Analysis of Elements

Identification of the elements included in a communication, process, procedure, etc.

**4.20 Analysis of Relationships

The organization, systematic arrangement and structure which holds a communication together. This includes the "explicit" as well as "implicit" structure. It includes the bases, necessary arrangement and mechanics which make the communication a unit.

DESCRIPTIVE VERBS

Breaks down, diagrams, differentiates, discriminates, distinguishes, identifies (parts of), illustrates, infers, outlines, points out, relates (one part to another), selects, separates, sub-divides.

5.00 Synthesis (production of something new)

Putting together of elements and parts so as to form a whole. This involves the process of working with pieces, parts, elements, etc., and arranging and combining them in such a way to constitute a pattern or structure not clearly there before.

**5.10 Production of a Unique Communication

The development of a communication or thing in which the writer, speaker, or producer attempts to convey ideas, feelings and/or experiences to others.

**5.20 Production of a Plan, or Proposed Set of Operations

The development of a plan of work or the proposal of a plan of operations.

**5.30 Derivation of a Set of Abstract Relations

Development of a set of abstract relations either to classify or to explain particular data or phenomena, or the deduction of propositions or symbolic representations.

DESCRIPTIVE VERBS

Categorizes, combines, compiles, composes, creates, devises, designs, explains, generates, modifies, organizes, plans, rearranges, reconstructs, relates,

reorganizes, revises, re-writes, summarizes, tells, writes.

6.00 Evaluation

Judgements about the value of material and methods for given purposes. Qualitative and quantitative judgements about the extent to which material and methods satisfy criteria. Use of a standard of appraisal.

**6.10 Judgements in Terms of Internal Evidence

Evaluation of the accuracy of a communication from such evidence as logical accuracy, consistency and other internal criteria.

6.20 Judgements in Terms of External Criteria

Evaluation of material with reference to selected or remembered criteria.

DESCRIPTIVE VERBS

Appraises, compares, concludes, contrasts, criticizes, describes, discriminates, explains, justifies, interprets, relates, summarizes, supports, weighs, judges, evaluates.

Sample Cognitive Objectives

KNOWLEDGE -- Sample General Objectives

Trainee will be able to:

Define technical terms by giving their attributes, properties, or relations (1. 11)

Distinguish the reference for words and establish limits within which it has meaning (1. 11)

Demonstrate familiarity with common range of meanings of specific words (1.11)

Recognize common range of meanings of specific words (1. 11)

State where he can find particular information (1. 11)

Recognize factual information (1.12)

List steps or major points in some specific organization of knowledge (1.12)

Identify correct responses (1.12)

Isolate specific information in an essay, book, or reference (1.12)

State major hypotheses in a particular field (1.12)

Describe something in detail

Describe the forms and conventions of major types of literary works (1.12)

Use correct form and usage in speech (1.21)

Use correct form - usage in writing (1.21)

Follow common rules of etiquette (behavior) (1.21)

Use correct forms of address in a foreign language (1.21)

Use symbols correctly (1.21)

Punctuate correctly (1.21)

Describe the effects of a change on a system (1.22)

Describe the influence of a particular philosophy or point of view on a portion of society (1.22)

Reproduce a flow chart (1.22)

Select the proper group in which a sample item belongs (1.23)

List specific criteria for evaluating something (1.24)

Select an example of a criterion from choices which include only one correct criterion and several wrong distractors (1.24)

Trainee will be able to:

List techniques for doing something (1.25)

Describe procedure for performing an operation, specifying places where evaluation should be made (1.25)

State the procedure for doing scientific research (1.25)

State steps in problem-solving process (1.25)

Recognize a correct generalization of a particular period or culture (1.31)

Recognize a correct generalization of a principle (1.32)

Recall major theories about particular cultures (1.32)

Select correctly an appropriate description of interacting components of a theory (1.32)

COMPREHENSION -- Sample General Objectives

Trainee will be able to:

State a problem in his own words (2.10)

Give an example of a general principle (2.10)

Prepare a synopsis of something (2.10)

Put a concept into visual form (2.10)

Read a graph (2.10)

Read a table of data (2.10)

Read a code or symbolic language (2.10)

Prepare a schematic diagram of something (2.10)

Given a verbal description, prepare a visual representation (2.10)

Translate a foreign language into English (vice-versa) (2.10)

Draw conclusions from various types of data (2.20)

State the major ideas of a work as a whole, at any desired level of generality (2.20)

Specify qualifications made when interpreting any data (2.20)

Distinguish warranted, unwarranted, or contradicted conclusions drawn from a body of data (2.20)

Draw conclusions not made by the writer (2.30)

State conclusion drawn from reading an article (2.30)

Make a prediction (2.30)

APPLICATION -- Sample General Objectives

Trainee will be able to:

Apply a generalization to a specific problem (3.00)

Relate a principle to a specific event (3.00)

Employ experimental procedures to find solutions to problems (3.00)

Predict the effect of a change in a factor on a situation previously at equilibrium (3.00)

Use specific techniques for doing something (3.00)

Use problem-solving techniques to solve specific problems (3.00)

ANALYSIS -- Sample General Objectives

Trainee will be able to:

Apply a generalization to a specific problem (3.00)

Relate a principle to a specific event (3.00)

Employ experimental procedures to find solutions to problems (3.00)

Predict the effect of a change in a factor on a situation previously at equilibrium (3.00)

Use specific techniques for doing something (3.00)

Use problem-solving techniques to solve specific problems (3.00)

ANALYSIS -- Sample General Objectives

Trainee will be able to:

State unspecified assumptions when given a conclusion (4.10)

Distinguish facts from hypotheses (4.10)

Distinguish conclusions from supporting statements (4.10)

Identify motives in individuals (4.10)

Identify motives in groups (4.10)

Distinguish different ideas in a passage (4.10)

Recognize interrelationships among ideas in a passage (4.20)

Select pertinent particulars for supporting or refuting a particular argument (4.20)

Recognize which facts or assumptions are essential to a main thesis or to the argument (4.20)

State whether hypotheses are consistent with information and assumptions (4.20)

Distinguish cause and effect relationships from other sequential relationships (4.20)

Distinguish relevant from irrelevant statements or information (4.20)

Detect logical fallacies in arguments (4.20)

Recognize form and pattern in literary or artistic works as a means of understanding their meaning (4.30)

Infer purpose, point of view, or traits of thought from a work (4.30)

Detect techniques used in persuasive materials (4.30)

Distinguish points of view of a writer (4.30)

SYNTHESIS -- Sample General Objectives

Trainee will be able to:

Prepare a well-organized essay presenting ideas in developmental and logical order (5.10)

Write creatively a story, poem or essay for personal pleasure or entertainment of others (5.10)

Tell a personal experience effectively (5.10)

Make an extemporaneous speech (5.10)

Write a simple musical composition (5.10)

Propose ways of testing a hypothesis (5.20)

Integrate the results of an investigation into an effective plan or problem solution (5.20)

Prepare a unit of instruction for a particular teaching situation (5.20)

Design simple tools to perform specified operations (5.20)

Develop techniques for obtaining information (5.20)

Prepare test questions (5.20)

Formulate appropriate hypotheses based on an analysis of factors involved modifying such hypotheses in the light of new factors and considerations (5.30)

Develop different ways in which experience may be organized to form a conceptual structure (5.30)

Formulate a theory of learning applicable to classroom teaching (5.30)

Develop mathematical generalizations (5.30)

Make mathematical discoveries (5.30)

Develop new schemes for classifying ideas, events, etc. (5.30)

EVALUATION -- Sample General Objectives

Trainee will be able to:

Assess probability of accuracy in reporting facts from the care given to exactness of statement, documentation, proof, etc. (6.10)

Apply given criteria (based on internal standards) to the judgement of the work (6.10)

Indicate logical fallacies in arguments (6.10)

Compare major theories, generalizations and facts about particular cultures (6.20)

Recognize and weigh values involved in alternative courses of action (6.20)

Distinguish between technical terminology which adds precision by permitting more appropriate definition and those which merely replace a common name with an esoteric one (6.20)

Evaluate health beliefs critically (6.20)

Apply self-developed (esthetic) standards to the choice and use of ordinary objects in an everyday environment (6.20)

Given possible bases for judgements about accuracy, recognize criteria which are appropriate (6.20)

Given X , determine criteria or evaluation which are appropriate and apply them to make an evaluation (6.20)

Given an means-end relationship, judge its validity and support this judgement (6.20).

Given an end, recognize the appropriateness of a particular means (6.20).

Given an end, recognize the best of several means (6.20)

THE AFFECTIVE DOMAIN

Passive - Involuntary - Transitory - Inconsistent - Neutral

1.0 Receiving

- 1.1 Awareness
- 1.2 Willingness to Receive
- 1.3 Controlled or Selective Attention

2.0 Responding

- 2.1 Acquiesce in Responding
- 2.2 Willingness to Respond
- 2.3 Satisfaction in Response

3.0 Valuing

- 3.1 Acceptance of a Value
- 3.2 Perference for a Value
- 3.3 Commitment

4.0 Organization of a Value System

- 4.1 Conceptualization of a Value
- 4.2 Organization of a Value System

5.0 Characterization by a Value Complex

- 5.1 Generalized Set
- 5.2 Characterization

Active - Voluntary Stable - Consistent - Positive

The Affective Domain and Peace Corps Training

The Affective Domain deals with attitudes, predispositions, values and beliefs. It is of concern to the teacher or trainer because the teaching of Cognitive and/or Psychomotor skills alone does not ensure that these skills will be employed after the student or trainee leaves the course of instruction. If we, as teachers or trainers, value the skills we are attemtping to impart, if we feel they will be relevant and useful for our students, then we should make every effort to develop the attitudes and values which will raise the probability that they will in fact, be used.

Very often when we do teach, we do want our students to use the skills we are attempting to develop. We often assume that the subject matter itself will inspire the student or trainee to employ the skills learned after the course is completed. Empirical evidence suggests that all too often this is not the case. Think of all the information and skills you were exposed to as a student. How many of these skills do you employ today? Probably your first answer would be "those skills which are relevant to my life and work." If you think further, however, you can probably identify areas of skill and knowledge which would be useful to you which you no longer use and, in some cases, consiciously or unconsciously avoid. In most instances this is because an event or events in your learning caused a negative response to the subject matter. If you think of courses you've taken where you disliked the subject, you can probably begin to isolate factors which caused you to want to avoid that subject. It is safe to assume that your teacher or instructor did not want to create this negative attitude. It is also probably that one reason it occurred was that he did not determine the type of attitude he wanted to promote and, because he had little or no idea where he was going, failed to arrive.

The first step in promoting attitudes towards learning is to determine the types of attitudes you want to promote and develop. The Affective Domain provides terminology with definitions that can help you to more precisely and effectively make this determination.

As with the Cognitive Domain, the definitions of the Affective Domain are essentially arbitrary identifications of points on a continuum. The definitions may also differ from your normal use of the words employed. However, if you learn the definitions and practice employing them, you will find yourself better able to determine and promote the types of attitudes necessary if your students are to actually employ their skills after completion of the course.

As a student moves from the Lower levels in the Affective Domain to the higher levels, his behavior changes from:

PASSIVE to ACTIVE
INVOLUNTARY to VOLUNTARY
TRANSTORY to STABLE
INCONSISTENT to CONSISTENT
NEUTRAL (or negative) to POSITIVE

There are five levels in the hierarchy of the Affective Domain. In outline these are:

1.0 RECEIVING
- 1.1 Awareness
- 1.2 Willingness to Receive
- 1.3 Controlled or Selective Attention

2.0 RESPONDING
- 2.1 Acquiescence in Responding
- 2.2 Willingness to Respond
- 2.3 Satisfaction in Response

3.0 VALUING
- 3.1 Acceptance of a value
- 3.2 Preference for a Value
- 3.3 Commitment

4.0 ORGANIZATION
- 4.1 Conceptualization of a Value
- 4.2 Organization of a Value System

5.0 CHARACTERIZATION BY A VALUE COMPLEX
- 5.1 Generalized Set
- 5.2 Characterization

Briefly the progression through the hierarchy is as follows:

1.0 RECEIVING - within the Receiving level the student is passive. Sole responsibility for directing the attention of the learning process lies with the teacher.

1.1 Awareness - At the awareness level the learner is merely conscious of something as(stimulus). His behavior does not imply attention. There is no specific discrimination between stimuli. The learner may well be unable to verbalize what it is that causes awareness.

1.2 Willingness to Receive - At this stage the learner is willing to tolerate a stimulus. He does not actively try to avoid it. However, his behavior indicates neutrality or suspended judgement towards these stimulus. An example would be a student who listens carefully when others speak.

1.3 Controlled Attention - The learner's behavior at this stage indicates that when certain stimuli are present they will be attended to. The learner controls his attention so that the favored stimulus is selected inspite of competing, stimuli. He listens in class instead of talking.

2.0 RESPONDING - At this level the student's behavior indicates that he is sufficiently motivated that he is actively attending. We would often describe this as "interest" in the subject.

2.1 Acquiescence in Responding - At this stage the student makes responses but has not fully accepted the necessity for doing so. He "complies" rather than acting voluntarily. For example, the student might follow rules for classroom behavior while the teacher in present, but revert to other behavior when the teacher is out of the room.

2.2 Willingness to Respond - The student's behavior at this stage indicates a voluntary response. No compulsion is involved or implied. In this instance the student would observe rules even when the teacher isn't present. Another example would be a student who voluntarily reads material or discusses it with the teacher.

2.3 Satisfaction in Response - Not only is the student's behavior voluntary at this stage, but it indicates a feeling a satisfaction--an emotional kick, pleasure, enjoyment, etc.

3. VALUING - At the Valuing level in the hierarchy we become involved for the first time with the concept of worth. What we regard as "valuable" or "worthwhile", etc. is partially the result of internal assessment. However, it is primarily a social product which has been internalized or accepted.

When learners are operating at this level their behavior is sufficiently consistent and stable that we can describe them as acting in terms of a value, a belief, or attitude.

At the valuing level we are not concerned with relationships between values, but with the internalization of a set of specified "ideal" values. Behavior is guided not by a desire to comply or obey, but by the individual's beliefs or values.

3.1 Acceptance of a Value - Valuing involves "ascribing worth to an object or behavior." A belief can be defined as "emotional acceptance of a proposition or doctrine upon what one implicitly considers an adequate ground."

Beliefs have varying degrees of certainty. At this stage we are concerned with the lowest degree of certainty. We can describe the student's behavior as a "tentative position." The behavior is consistent enough that others perceive the student as holding a belief or a value and the individual is willing to be so identified.

An example would be a student whose behavior indicates a continuing desire to develop a skill.

3.2 Preference for a Value - The behavior of an individual at this stage indicates not only identification with a value but active pursuit of the value. One example would be a student who assumes responsibility for helping other students to achieve a skill.

3.3. Commitment - Commitment involves a high degree of certainty and conviction. The individual's behavior demonstrates qualities like "loyalty to a position, group of cause." There is an inner tension surrounding the value of belief which can only be satisfied by action. The individual attempts to convince or convert others. A Republican who not only votes but actively canvasses for Republican candidates would demonstrating commitment.

4.0 ORGANIZATION - As an individual successively internalizes values, he encounters situations where more than one value is relevant and where a choice may be necessary between conflicting values. When this happens a rational approach includes:

a) determination of a comprehensive list of values;
b) determination of inter-relationships between these values;
c) the establishment of priorities among values.

Essentially, two steps are involved:

4.1 Conceptualization of a Value - At this stage the quality of abstraction is added to consistent and stable beliefs or values. This permits the individual to see how the value relates to others that he holds or is coming to hold.

4.2 Organization of a Value System - The individual at this stage brings together a complex of values some of which may be in conflict. He develops a dynamic equilibrium of values which is, in part, dependent upon those portions of the environment which are important at any one point in time. For example, the Peace Corps Volunteer consciously or unconciously reorganizes values in terms of factors and facets of his new environment.

5.0 CHARACTERIZATION BY A VALUE COMPLEX - at this level the individual acts consistently in accordance with values he has conceptualized and organized. Two factors are involved:

a) the generalization of this control to so much of the individual's behavior that it leads to his being described and characterized in terms of these values;

b) the beliefs, ideas, attitudes and values of the individual are integrated into a total world view.

5.1 Generalized Set - An individual at this stage will almost invariably make persistent and consistent responses to a set of related situations. It involves a basic orientation which enables the individual to reduce the order the complex to world he lives in and to act consistently and effectively in it.

5.2 Characterization - Characterization involves a greater inclusiveness than the generalized set. All important ideas, attitudes, beliefs and values are incorporated. Values, ideas, attitudes and beliefs are ordered in a way that is internally consistent. Others can characterize the individual not only in terms of his values, but in terms of his value priorities.

WRITING AFFECTIVE OBJECTIVES

How do you write an affective objective? Essentially the process is similar to a cognitive or psychomotor objective:

a) the student or trainee is the subject;
b) there is an action verb, usually "demonstrate" or an equivalent;
c) there is a measurable action or measurable actions.

An example would be:

The student will demonstrate willingness to respond by:

a) voluntarily discussing the day's subject with the instructor;
b) doing homework assignments

Another example:

The student will demonstrate commitment to CRI by:

a) using the methodology without authcritative pressure to do so.
b) defending the methodology when discussing teaching methods with other teachers and trainers.

In presenting affective objectives to students or trainees, it is occasionally best not to indicate the types of behavior by which you plan to measure the objective. If you do mention these there, is the chance that the students will simply reproduce this behavior without having actually achieved your objective. (N.B. Behavior can become a habit -- even if feigned -- if it is done often enough and is given continual positive enforcement.)

PROMOTING AFFECTIVE OBJECTIVES

How do you promote and achieve affective objectives?

Essentially the process is very similar to teaching cognitive or psychomotor objectives.

First, you state the objective at a level which you feel is appropriate in terms of the age, background and interests of your prospective students or trainees. In the case of vocational training, you would also determine the affective objectives required by the job.

Second, you pre-evaluate your students to determine the attitudes and values that they have brought to the course. This can be done formally or informally, which ever is easier and/or more appropriate in the circumstances. On the basis of your pre-evaluation, you would either retain, raise, or lower the level of your objectives.

Third, you conduct learning activities using the five teaching -learning principles:

i) Perceived Purposed -- Perceived Purpose is the one principle that is directly concerned with the affective domain. The better your perceived purpose, the greater the chance you have of achieving your affective objective (s).

ii) Appropriate Practice -- You should give your students an opportunity to practice the type of affective behavior you have stated as your objective.

iii) Knowledge of Results -- When your students fail to practice appropriately you should provide knowledge of results. This should be as positively presented as possible. I can be supported by reiteration on perceived purpose.

iv) Graduated Sequence -- As with the cognitive domain, you can use the hierarchy of the affective domain to design graduated sequence. If your course affective objective is preference for a value, or commitment, and if your students' entry behavior is acquiescence in response, you will want to move toward your final objective in a graduated sequence.

v) Individual Differentiation --affective behavior varies as more widely than cognitive and psychomotor skills. You should be aware of and attempt to use these differences constructively.

Fourth, you Post-Evaluate your students to determine whether the affective objective was achieved. If it was achieved very easily, you should consider attempting a more difficult objective the next time (if appropriate). If you failed to promote the objective, you would analyze your attempt to determine where improvement is required. If you achieved the level you set in approximately the time you estimated, you can probably pat yourself on the back and use a similar approach the next time.

There is some additional information that should help you to promote affective objectives.

Student attitudes towards subjects can be described in terms of a basic dichotomy:

Either the student tends to approach the subject

or

The student tends to avoid the subject.

As a teacher or trainer your task is to promote approach to the subject and to minimize, neutralize or eliminate avoidance.

In an attempt to promote approach, there are three areas of concern:

1) conditions
2) consequences
3) modeling (immitation)

These represent three important ways in which behavior towards objects and events are influenced.

Conditions are the events that surround the subject;

Consequences are the results of coming into contact with the subject;

Modeling is concerned with the way others react to the subject.

If we keep these three concepts in mind, we can more easily find ways to encourage our students to approach the subject and we can minimize those factors which would cause our students to avoid the subject. The basic rules are:

1) When the student is in the presence of the subject, he should at the same time be in the presence of positive conditions. Conversely, when the student is in the presence of the subject not at the same time be in the presence of aversive (negative) conditions.

2) Whenever contact with subject matter is followed by positive consequences, the subject will tend to become a stimulus for approach responses. Conversely, whenever contact with the subject is followed by aversive consequences, the subject may become a stimulus for avoidance responses.

An aversive condition or consequence is any event that causes physical or mental discomfort. It is any event that causes a person to think less highly of himself, that leads to a loss of self-respect or dignity, or that results in a strong anticipation of any of these. In general, any condition of consequence may be considered aversive if it causes a person to feel smaller or makes his world dimmer.

Among the universal aversives are:

Pain -- acute physical discomfort. Hitting a student is an example.

Fear and Anxiety -- distress or uneasiness of the mind: apprehension of danger, misfortune, or pain; tension, foreboding, worry, or disquiet; anticipation of the unpleasant. Some ways in which teachers cause fear and anxiety are by telling the student:

"You won't understand this, but..."

"It ought to be perfectly obvious that ..."

"Half of you won't be here a month from now ..."

"I don't believe in giving high grades."

"If you aren't motivated, you shouldn't be here.

"If you don't perform well you'll have to go and see the principal."

Frustration -- a condition or consequenct that occurs when goal-directed activities are blocked, when purposeful or motivated activity is interfered with. Some practices which lead to student frustration area:

Presenting information in larger units, or at a faster pace, than students can assimilate.

Speaking too softly to be heard.

Not telling the student the intent of instruction, or the way in which his performance will be evaluated.

Refusing to answer student questions.

Writing "tricky" tests.

Forcing all students to proceed at the same pace.

Humiliation and embarrassment -- lowering a person's pride or self-respect, by making him uncomfortably self-conscious; by shaming, debasing or degrading him; or by causing him a painful lack of dignity. You risk causing humiliation and embarrassment by:

Publicly comparing a student unfavorably with others.

Laughing at a student's efforts.

Bringing a student's weaknesses to the attention of the class.

Making a student wear a "badge of stupidity".

Belittling a student's attempt to approach the subject.

Insulting a student's attempt to approach the subject.

Causing situations which lead to repeated failure.

Boredom -- the result of a situation in which the stimuli for the student are weak, repetitive or infrequent. Things that lead to boredom include:

Speaking in a monotone.

Rocking back and forth rythmically while speaking.

Insisting a student sit through something he already knows.

Using impersonal, passive language.

Using a graduated sequence with increments that provide no challenge.

Using a single mode of presentation -- teacher and learner activities are always the same.

Physical Discomfort -- an uneasiness, a hardship, a mild pain. Ways and means of inducing physical discomfort include:

Allowing excessive noise or other distractions.

Insisting that students be physically inactive for longer periods of time than his state of development can tolerate.

Insisting that a student pay close attention immediately after he/she has eaten.

Making a classroom too hot.

All of the above examples--and many others--are aversive conditions and consequences. When they occur they cause the student to avoid the subject.

A positive condition or consequence is any pleasant event that exists during the time the student is in the presence of the subject matter, or that follows his approach to the subject matter. It causes the student to think a little more highly of himself and makes his

world a little brighter. As teachers or trainers we want to promote events that lead to success experiences and acknowledge that success, insure a variety of stimulation lead to an increase of self-esteem or improved self-image, and lead to an increase in confidence. Some of the things we can do include:

Recognizing that a student's response is an attempt to learn and giving knowledge of results in a way that accepts rather than rejects that attempt.

Reinforcing or rewarding students who approach the subject.

Designing graduated sequences that will allow success most of the time.

Providing enough telephone poles so that the student knows what he has achieved, where he is, and where he is expected to go.

Providing the student with statements of instructional objectives that he can understand when he first sees/hears them, i.e. precisely written behaviorally stated objectives.

Individually differentiating between students who already know subject and those who don't.

Giving knowledge of results that is immediate and specific to the student's response.

Giving the student some choice in selecting and sequencing subject matter.

Relating new information to old, within the experience of the student.

Giving the student some choice in selecting and sequencing subject matter.

Treating the student as an individual.

Using active rather than passive words in your presentation.

Making use of techniques that attract and hold attention, such as motion, color, contrast, variety and personal reference.

Expressing genuine satisfaction when a student experiences success.

Providing instructional tasks that are relevant to your objectives, i.e. Appropriate Practice.

Using test items that are relevant to your objectives.

Allowing students to move about as freely as their age and interests require.

Creating a classroom environment that is as comfortable as possible.

Modeling is based on the principle that behavior is influenced by models we learn by imitating. Most learning outcomes in the affective domain that result from direct experience can also be produced on a vicarious basis through the observation of other people's behavior and its consequences for them. Experiments indicate that:

1) Students learn more by imitation if the model has prestige in the eyes of the students.

2) The student will perform more of what he has learned if he has seen the model being reinforced rather than punished for that performance.

3) When a student sees a model being punished, the student will tend not to engage in the kind of behavior that was punished.

4) When as student sees a model doing things he shouldn't do (transgressions) and there is no aversive consequence to the model, there is an increase in the probability that the student will do those undesirable things.

As a teacher you are probably a model with prestige. If you are enthusiastic about your subject matter, it doesn't guarantee that your students will be. But, it increases the probability. If you are apthetic and uninterested in what you are teaching, it doesn't necessarily follow that you, that your students will also be apathetic. But its' more likely.

There is some indication that if you teach one type of behavior, and model another, the teaching is less effective than if "you practice what you teach." In essence, if we are trying to produce and affective behavior, we should be very aware of the necessity of modeling that behavior ourselves.

In the above we have briefly discussed the Affective Dcmain and Ways of promoting affective objectives. The material presented is cursory and by no means complete. If you would like to investigate the subject more thoroughly you will find the following sources of use:

1. Krathwohl, David R., Bloom, Benjamin S., and Masia, Bertram B. Taxonomy of Educatioanl Objective, Handbook II: Affective Domain. New York: David McKay Company, Inc., 1964

2. Mager, Robert F. Developing Attitude Toward Learning. Belmont, Cal.: Fearon Publishers, 1968

3. Popham, W. James and Baker, Eva L. Establishing Instructional Goals.

4. **_____ Systematic Instruction. Englewood Cliffs, N.J.: Prentice-Hall, Inc. 1970

Pre-Evaluation

Pre-evaluation, (or pre-assessment) the third step in a systematic approach to training, is the identification of the trainee's entry skills.

In putting together an in-country training program there is one critical unknown, the trainees. Information on skills which is available to field staff at the time objectives and goals are being prepared is normally limited, and more than occasionally inaccurate. Information on trainees interests and activities is almost invariably non-existant.

While pre-assessment can be initiated during the invitation, process or at staging is must in reality occur seriously with the arrival of the trainees at the training site.

I. What is Pre-assessment?

Pre-assessment is an evaluation conducted before the instruction begins to determine what the trainees already know about the subject matter and other important information about the trainee.

II. Why conduct a Pre-assessment:

a. Only by using a pre-assessment can the instructor relate the training to achievement of the behavioral objectives of the course. In the long run, a carefully conducted pre-assessment will result in the trainee taking greater interest in learning.

b. By using a pre-assessment the trainer can make sure that only trainees who cannot already perform the activity receive the training, thus reducing boredom and other discipline problems.

c. By using a pre-assessment, the trainer can make sure that all the trainees have the necessary pre-requisite knowledge to benefit from the class, thus reducing the chances of frustration on the part of the trainees and the trainer.

By using a pre-assessment, the trainer can find out as much as he can about each trainee, thus enabling him to design training which meets the individual needs of each trainee.

III. Characteristics of a Pre-assessment

A. A Pre-assessment should determine whether or not the trainees can already perform the action described in the behavioral objective.

1. The most important purpose of the Pre-Evaluation is simply to determine whether or not the trainee can already do what the instructor plans to teach. All to often, a trainee is forced to sit through a course that he has no need for only because the instructor did not take the time to determine what the trainee could do.

2. It is important that the trainer know whether or not the trainee can perform the desired behavior before the course so that when they perform it correctly at the end of the course, he knows that it was this training which made the difference.

3. It is also important to eliminate from the class or assign different activities to trainees who can already perform the desired skill, because trainees who are bored with reviewing old material may cause bad attitudes to develop in the other trainees in the class.

4. If most of the trainees in a class are found to be already capable of accomplishing the objective, then the objective should be changed.

B. A pre-assessment should determine whether the trainee has the necessary pre-requisite skills needed to learn the skills to be taught in the training program.

Rarely do all trainees come to a training program with the same backgrounds and the same abilities. Nor do all the trainees come to the training program with the necessary skills to participate in the learning activities planned for the course. Without a pre-evaluation, the

trainer has no way of knowing this information about his trainees until it is too late. Without adequate pre-assessment the trainer may proceed without his entire course input and not achieve satisfactory results simply because the trainee lacked a prior requisite.

In order to prepare a Pre-assessment that determines whether or not the trainee has the pre-requisite skills, these pre-requisites first have to be identified. In being able to do simple work like maintaining business records, an obvious pre-requisite is the ability to read and write. The ability to use many of the training materials currently available require knowledge or English or a technical vocabulary of some sort.

The major problem comes in deciding just what is a pre-requisite. The ability to read is a pre-requisite for maintaining records. However, it is not a necessary pre-requisite for delivering a baby. In most instances, determining whether or not a trainee has the pre-requisites for a course can be a simple as asking him. For more complex objectives, however, more serious consideration should be given to determining what pre-requisites there are for each course.

If, upon conducting the Pre-Evaluation, the instructor finds that some or all of the trainees do not have the necessary pre-requisite skills for the class, there are three possible alternative decisions which the instructor may decide to take:

1. He can try to train the trainee in those skills he is lacking and then go on to teach him the skill he is primarily concerned with.

2. He can eliminate the objective.

3. He can exclude the trainee from the class.

The last alternative is usually not possible or desirable. The second alternative may be the best solution if <u>most</u> of the trainees lack the necessary pre-requisite skills.

If only a few of the trainees lack the pre-requisite skills or if it is absolutely essential to accomplish the original objective as stated, then the first alternative may be only possible one to choose. This may be the most challenging approach for the trainer, but if it is handled skillfully, it can be the most rewarding. In this approach, the Teaching-Learning Principles of Graduated Sequence and Individual Differentiation will be most emphasized.

C. A Pre-assessment should find out enough about each trainee so that the trainers can plan motivating and useful learning activities.

The third purpose of pre-assessment is to find out sufficient information about a trainee, his background, experience and interests so that better training inputs that relate more directly to the trainer can be planned. For example, a trainee who writes good poetry should be encouraged to apply this skill to the material being learned. A trainer who has traveled extensively to other countries should be encouraged to relate the subject matter to the other cultures he has experienced.

Learning Activities

Learning Activities are the heart of the training program. They are what the trainees and trainers do to achieve the objectives which have been set for the program.

During the past few decades, educational psychologists have derived a large number of educational principles which, when applied promote learning. Unfortunately, many people who work in Peace Corps training are neither educators nor trainers. As a result, we rely largely on intuition and "heart" to guide our design and presentation of learning activities. A few of us, perhaps 5% are natural or "inspired" teachers trainers. However, the majority of us do not fall into this category. We learn by trial and error and at the expense of training and the trainees.

Different educational psychologists have established different list of education or learning principles. Some of these lists as many as a hundred principles and other as few as 3, 10 or a dozen. While any of these would probably prove useful if actually applied, the Criterion-Referenced Instruction system suggests five basic teaching-learning principles which represent a fairly comprehensive coverage of the principles of educational psychology. They have the added value of being simple, easy to understand, and, most important, easy to employ in designing implementing and evaluating learning activities. These principles are:

1. Perceived purpose
2. Appropriate practice
3. Knowledge of results
4. Graduated sequence
5. Individual differentiation

Each of these is discussed separately in the following pages.

Operationally, the five teaching-learning principles provide a check list for both individual training exercises as well as sequenced training units. As the trainer internalizes the principles, they are incorporated naturally into his lesson and units and in a surprisingly short period of time, he begins to use them as a springboard for creativity rather

than simply as a mechanical device. Upon conclusion of a lesson or unit (past evaluation) the trainer can often identify those areas that need modification, improvement or elimination by analyzing the lesson in terms of principles. Also, this facilitates effective consultation and assistance in the training process by another trainer.

Teaching-Learning Principles:

1. Perceived Purpose

People learn better if they have a reason to learn. Perceived Purpose involves helping the trainee to develop a rationale for learning the material or skills required to meet training objectives.

The principle of perceived purpose is strongly related to the presentation and explanation of training objectives to the trainees on their arrival, (See Qualification Model in the Training Activities Section.) and falls in the general field of "motivation."

According to this principle the trainee should be shown the value of what he is learning. It involves an effective description of what it is he is supposed to accomplish and why the objectives are worthwhile.

Trainees learn best if they can see, or develop themselves, a rationale for learning the material being presented. If the trainee accepts the importance of what is being offered, he will make the effort to learn and use that skill, knowledge, or attitude. Perceived purpose means either providing that rationale or guiding the trainees in developing it themselves.

Many Peace Corps trainers assume that because they have selected particular objectives the trainees will automatically recognize that these goals are worthwhile. Of course any experienced Peace Corps trainer knows this is a delusion because trainees often question the merits of these goals. Often their doubts are well founded. If there is some defensible reason for achieving a particular objective this should be communicated to the trainee. However, if the trainer must search for reasons to convince the trainees and fails to find reasons, the objectives must be reevaluated.

Effective Perceived purpose should involve:

1. The creation of a positive set for the subject to be studied;

2. A purpose that is relevant to the specific objective;

3. A purpose that is relevant to the trainees, preferably as individuals;

4. It should be developed near the beginning of instruction -- a rationale developed at the end is of little use;

5. It should support the self-esteem of the trainee. It should not belittle or threaten him.

There are a number of ways to develop perceived purpose. Among them are:

1. Extrinsic Reward -- This involves holding out some type of reward to the trainee (e.g. free time) for successful completion of training activities and achievement of objectives. This is generally not effective as it focusses the trainee on the reward -- not developing a skill.

2. Exhortation -- Telling the trainee that learning the material is "important" or "useful", etc. Its utility depends on the credibility of the instructor. Obviously it can be overused if it is the only approach to perceived purpose.

3. Deductive -- In this approach the instructor relates the material to something the trainees will do in the field; in other words, the instructor presents a rationale for achieving the objective.

4. Inductive -- The most effective type of perceived purpose, induction involves providing trainees with sufficient information that they individually develop a rationale for learning.

Obviously, the probability for success in achieving motivation is greater if the reward is intrinsic rather than extrinsic. Peace Corps' move from the old FAO-FSO selection model to the current qualification model was a recognition of this principle, i.e. the move was away from the extrinsic threat of "de-selection" as a motivation for learning to the intrinsic value of qualifying for Volunteer service by meeting goals based on task analysis of the Volunter job.

Developing Perceived Purpose

Perceived Purpose: The trainee must see why he should study something.

What Does Perceived Purpose Mean?

"To perceive" means to see or to understand and "purpose" means the reason for doing something or the usefulness of something, or why something should be done. The Perceived Purpose means that the student must understand the reason of studying a particular subject.

The student must see a reason why for studying a particular thing. If you want the trainee to be able to use sterile technique in a laboratory, he must know why it is important for him to use sterile technique, etc.

Why is Perceived Purpose Needed?

If the trainee does not understand why it is important to study a particular subject, he will not want to study it. If he does not want to study it, he will not learn it. Therefore it is important that the trainee understand the usefulness to him of learning the subject the instructor intends to teach.

It is the trainer's responsibility to see that the trainee is motivated to learn. Too often trainers leave this entirely up to the trainees. They either assume that the trainees will want to learn, or assume that trainees who do not want learn are just lazy. Neither of these may be the case. Once the trainee sees that achieving the objective will be useful to him, he will probably want to try to learn it. However, the instructor must point out its usefulness to the trainee. If the instructor thinks that the subject may not be useful to the trainee, he should not teach it. If he thinks it will be useful, he should tell the trainee how and why it will be useful, or provide the trainee with sufficient information so that he can make this determination himself.

How Should Perceived Purpose Be Developed?

A. The instructor must try in some way to create a positive set for the subject to be studied.

In order to do this properly, the instructor must have a postive attitude towards the subject himself. He must believe that it is worth studying and convince the trainees that it is worth studying.

If an instructor uses "Negative" Perceived Purpose, he is not using the principle properly. "Negative" Perceived Purpose means that he indicates in some way he thinks the objective is not worthwhile or that studying it is a waste of time.

B. The Perceived Purpose must be relevant to the specific behavioral objective being taught.

Just as the Appropriate Practice must be the same action as described in the objective, the Perceived Purpose must relate directly to the objective. You want the trainee to be motivated to learn to do the specific behavior you are trying to teach.

C. The Perceived Purpose developed must be relevant to the particular trainees whom you are teaching; it must be some thing important to them personally.

People only understand things that relate to their own lives. People are only motivated by things which are important to them personally in some way or other. An instructor might use one type of motivation technique with one type of trainee very successfully, but the same technique with a different group of trainees might be completely useless if it is meaningless to them. Therefore, in using Perceived Purpose, the instructor must take into consideration the background of the trainees.

D. Perceived Purpose should be developed some time near the beginning of the instruction. (It may be repeated near the end also, but it must first appear near the beginning.)

Perceived Purpose should be developed initially as soon as possible in the instruction. If thetrainee's interest is only aroused near the end of training, how can he learn? His opportunity will already have been lost.

This does not mean that Perceived Purpose should only be developed at the beginning of instruction, and then forgotten. It is usually a good idea to continue to develop Perceived Purpose throughout the period of instruction. Interest can lag at any time during the course, and when the trainee loses interest, learning stops. It is also a good idea to end on a motivating thought, so that the trainee will be motivated to apply what he has learned when he leaves your class.

E. Perceived Purpose must support the self-esteem of the trainee--if should not be-little his or frighten him or make him feel bad.

This means that Perceived Purpose should lead to the development of the trainee in a positive sense. It should create pleasant conditions in the learning situation. If the conditions are unpleasant, the trainee will try to avoid them, and hence avoid learning.

The methods used to develop Perceived Purpose should not, produce antagonisms in the trainee towards the instructor, the class, other trainees, or the subject. After all, what good does it do to get a trainee to study hard for a <u>class</u>, but to dislike a subject? In the long run, it does no good at all. Therefore, it is better to use Perceived Purpose that develops and improves the trainees rather than methods that would belittle or threaten them or produce undesirable side-effects.

Here are a few possible ways of developing Perceived Purpose:

The instructor can relate the subject matter to the trainee's own lives by pointing out how achieving this objective will help them; in other words, how it will make their lives more rewarding.

The instructor can point out the importance of achieving this objective in order to help the trainees do their jobs better, or how it will make them better workers.

The instructor can give examples of ways in which use of the principle the instructor plans to teach has helped other workers in similar jobs to those of the trainees.

The instructor can show what bad things may happen if the desired principle is not applied (such as not using sterile techniques causes infection). But these should not be threats to the trainee as a person.

If the instructor includes any of the above mentioned approaches or similar items in his lesson, we can assume that he is trying to motivate the students to learn and thus is applying the teaching principle of Perceived Purpose. Whether or not the trainees are actually motivated to learn or not, however, can only be determined by observing the trainees. If is actual practice a particular instructor's motivational techniques do not actually motivate the trainees to learn, then the instructor should modify his technique or use other methods of inspiring the trainees to learn.

Review of Main Points About Perceived Purpose

An instructor is using the principle of Perceived Purpose when the following conditons are met:

A. The Perceived Purpose must be positive towards the subject. It must be absolutely clear that the instructor is trying in some way to give the trainees a reason for studying that subject.

B. The Perceived Purpose must be relevant to the specific behavioral objective being taught.

C. The Perceived Purpose developed must be relevant to those particular trainees; it must be something important to them personally.

D. Perceived Purpose must be developed some time near the beginning of the instruction. (It may be repeated throughout the instruction and near the end also, but it must first appear near the beginning.)

E. The Perceived Purpose must support the self-esteem of the trainee--it should not belittle him or frighten him or make him feel bad.

Examples of Perceived Purpose

Below are two examples of instructors' attempts to teach the objectives. The first example, the instructor is not using the principle of perceived purpose, while the instructor in the second example is using this principle. Read both examples and the discussion that follows.

Example One - Perceived Purpose -- No

Objective: The trainee will be able to explain the policies of the Department of Education with regard to hours on duty, leave allowances, and procedures for taking leave.

Learning Activity: The instructor starts the course by saying "I know you already know this, but the government says I have to teach it, so I will review it for you anyway."

Discussion: How many times have you seen instances where instructors start off their class telling the trainees that the course is required, so would they please not become too bored? If there is a chance that the course will be no more than review, why teach it? Why teach any course if it can't be made relevant to the trainees' needs and perceptions of what they want. The instructor in this example hasn't realized that if trainees are not interested in what they're going to learn, they won't learn it. Moreover, this probably causes a vicious circle, in which the course is given again because the trainees didn't learn anything the first time.

Example Two - Perceived Purpose - Yes

Objective: The trainee will be able to present the flannelgraph story on the pollution problem to a group of local village elders and afterwards answer their questions and discuss pollution with them.

Learning Activity: The instructor starts this course by explaining the importance of village elder to the success of the Environmental Protection Program. He gives several examples of actual villages where the worker has been able to make the Environment Protection Program a success by active involvement of the village elders. Then the instructor states that in this course the trainees will learn how to motivate the local village elders to help them in implementing the program.

Discussion: In this second example the instructor is trying to relate his class to a need that the trainees have -- in this case, the need to be successful in their job. While it is granted that this will not motivate every trainee, the instructor is probably more able to get the attention and interest of his trainees than if he didn't attempt to tie the subject in with the trainees' other interest. By taking this first step, the trainer has gone a long way to developing ways of ensuring that the courses he teaches are vital and essential to the trainees. At the same time, he is probably ensuring that he won't have to say sometime in the future, "I know you've already been taught this, but ...."

Teaching Learning Principles:

2. Appropriate Practice

Appropriate practice means provision of opportunities for the trainee to perform in a fashion consistant with the objective.

Quite simply this means doing what the objective calls for. It is based on the trite but true principle that we learn by doing. Few trainees will achieve an objective without this. If an objective is driving a tractor, a trainee must have an opportunity drive one and not just be the victim of classroom instruction. If the objective is that the trainee will be able to write a lesson plan employing an objective, pre-assessment, learning activities which incorporate these five teaching-learning principles, and a post evaluation then the best possible way to achieve that objective is for the trainee to write a lesson plan.

While this seems both simple and basic, a great many problems in Peace Corps training can be attributed to inappropriate practice, e.g. learning to write lesson plans by listening to extensive lecture on the subject.

The three domains and hierarchies within the domains are useful in determining what is appropriate. If exact practice is not possible, learning activities should be as equivalent or angalogous as possible. For instance, if student teaching in real classrooms is not possible because of timing of training falls during school vacation then the next best recourse may be to set up summer review or remedial schools for Volunter students.

Summary

Appropriate Practice: All the trainees must practice doing the action described in the Behavioral Objective

What is Meant by Appropriate Practice?

Appropriate Practice means practice doing exactly the same action as described in the Behavioral Objective. Although practice in other skills leading up to the one desired may and should also be given, at least some practice must be given in doing the desired activity. This should be done under exactly the same conditions stated in the objective. The practice and the evaluation cannot be one and the same. The trainee must do the required action at least once for practice and at least once more for the Post Evaluation. For example, if you want the trainee to be able to manage a classroom, you must allow a minimum of one opportunity in a classroom for practice and after that conduct at least one more classroom exercise evaluation.

Why is Appropriate Practice Needed?

Educational psychologists have discovered that people learn best when they are given an opportunity to practice or apply their new skills and knowledge. This especially important for job training, since specific skills are required on the jobs. What is needed in order to acquire these essential skills is practical training rather than theoretical discussions. Instructors who use CRI realize that without sufficient practice, many objectives cannot be achieved. By using the principle of appropriate practice, the instructor is certain that what he is teaching is relevant to the behavioral objective, and further that he has a high probability of achieving it.

EXAMPLES OF APPROPRIATE PRACTICE

Below are two examples of an instructor's attempts to teach the given objectives. In the first Example, the instructor is not using the principles of APPROPRIATE PRACTICE. In the second Example, the instructor is using the principle. Read both examples, then read the discussion that follows:

EXAMPLE ONE

OBJECTIVE: The trainee will be able to explain blueprints, section views and perspective drawings to a draftsman apprentice, using examples of all three, and answering all of the apprentice's questions about these type of drawings.

Learning Activity: At the beginning of a lecture on each type of drawing, the instructor calls on one of the trainees to come to the front of the room and give an explanation of the three types using example. He then proceeds to give his normal lecture on the subject.

Discussion: In this example, the instructor is not using the principle of APPROPRIATE PRACTICE. He is violating rules A and B. The objective calls for doing the activity in a situation where there are draftsman apprentices--and presumably this would be a place where they are doing their apprenticeship. Therefore, the practice provided is quite different from the behavior required in the objective. Secondly, only one trainee gets the opportunity to practice giving the explanation. APPROPRIATE PRACTICE means that all the trainees must practice.

EXAMPLE TWO

OBJECTIVE: The trainee will be able to present a flannelgraph story on the pollution problems to a group of village elders and afterwards answer their questions and discuss the problem with them.

Learning Activity: Starting the second week of this 8-week course, the trainees spend three weeks in the field conducting group meetings with village elders. They use a flannelgraph on the pollution problem to explain the problem to the elders and then answer their questions about pollution in general discussions. Each trainee observes at least four such meetings and does two on his own.

Discussion: In this example, the trainee did do what was stated in the objective--they went out to the village and held group meetings. They used the flannelgraph and endeavored to answer the elders' questions. This practice duplicated exactly what was specified in the objective, so it was APPROPRIATE PRACTICE. It is also important to note that this instructor wisely provided sufficient practices so that each trainee had ample opportunity to improve.

Review once more the main points about APPROPRIATE PRACTICE.

An instructor is using the principle of APPROPRIATE PRACTICE when he meets the following conditions:

A. The trainees are allowed to do the specific action called for in the Behavioral Objective under exactly the conditions described in the objective.

B. All of the trainees have a chance to practice.

C. The practice comes before the final evaluation of the objective.

D. If more than one desired action is described in the objective, the trainee must have practice in doing all of the desired actions. It cannot be assumed that because the trainee can do one action that he can do another different action as well.

Teaching-Learning Principles:

3. Knowledge of Results

Knowledge of Results means provision of opportunities for the trainees to determine the adequacy of their own responses shortly after making them. While we learn from doing, we can learn to do things incorrectly. Knowledge of Results involves telling the trainee whether he is doing something correctly or incorrectly, and, if the latter, telling him precisely as possible what he is doing wrong and how to correct it.

We often fail in this because we don't want to hurt the trainees feelings. It requires a high degree of responsibility on the part of all the training staff. It can be done within the framework of helping a trainee, with the emphasis on evaluation of the trainers or training rather than the trainee. The time factor is of crucial importance. The longer period that lapses between practice and knowledge of results the less effective it becomes. After one hour-effectiveness diminishes rapidly. This of course becomes difficult on individual field trips or other learning activities when the trainee is away from staff for long periods. Even then, there is a better chance of structuring it in, if the principle is kept in mind, than if it is ignored.

Like Perceived Purpose, Knowledge of Results is central to the Peace Corps Qualification Model. It is a precise and more accurate description of what we mean by "feedback". Some suggestions on giving and receiving feedback are included in the section on the Qualification Model.

What is Meant by Knowledge of Results?

Knowledge of Results means that each time the trainee practices doing the desired action, he should be told in some way whether he is doing it correctly or not, if he is doing it right he should be told he is doing it correctly vice versa. If only part of what he is doing is wrong, he should be told which part is wrong. He should also be told why it is wrong and how to make it right.

Knowledge of Results is for the trainee, not for the instructor. When the instructor checks on how well the trainee is doing for the instructor's information, that falls under the category of evaluation. It is possible to let the trainee know how well he is doing, without the instructor checking on the trainees. Or, the instructor may give Knowledge of Results to the trainees and collect evaluation information for himself at the same time.

WHY SHOULD KNOWLEDGE OF RESULTS BE GIVEN?

Why Should Knowledge of Results be Given?

Knowledge of Results is necessary for the trainee to improve from one practice to the next. When a trainee performs something wrong, he must know what he is doing wrong so that he will know what to change in order to improve. If he is not told he is performing incorrectly, he may go on doing the same thing and thus simply practice the wrong action over and over. It is true that we learn from our mistakes, but only if we know they are mistakes. A trainee must also be told if he is performing correctly. Otherwise he may think he is doing it wrong and change to the wrong procedure, just because he does not know when he is right. The trainee should be given a chance to improve after being given Knowledge of Results and he should go on practicing until he has performed the desired behavior correctly several times.

The purpose of Knowledge of Results is to guide the trainees toward accomplishment of a specific objective. We do not want the trainees to perform the behavior in just any way they want, we want them to perform it as described in the behavioral objective.

For example, suppose Peace Corps Volunteers are learning to conduct interviews with village elders about C.I.A. projects. The teacher does not want them to conduct interviews to just any haphazard way: they must follow rules for good interview procedure. Thus, after each interview they conduct, they should be told if they are following the correct procedure or not. This way, the trainees can consciously try to correct their mistakes and improve their interview technique.

How Should Knowledge of Results Be Given?

A. For every activity that the trainee performs, he should be told how well he is doing. Only in this way, will he be able to improve from one practice to the next.

If the trainee does not get Knowledge of Results each time he practices, he may practice wrong part of the time.

B. Each and every trainee must receive Knowledge of Results, not just some of them.

This means that each trainee must know each time he practices whether he has performed correctly or not. This does not mean that the instructor must speak to each trainee individually after each practice, but he must have some way of letting the trainee know what is the right answer or the correct way of performing.

C. The trainee should be given Knowledge of Results as soon as possible after performing the activity -- preferably immediately after doing it, but at least within one hour of the time the activity is completed.

The most effective, Knowledge of Results should be given as the trainee practices. The trainee should know immediately after he does something whether it is right or wrong. If he has to wait too long after doing something before finding out if it is right, by the time he gets the results, he may have forgotten what he did.

There are four basic kinds of Knowledge of Results.

1. Say right or wrong.
2. Say right or wrong plus explanation.
3. Give right answer.
4. Give right answer plus explanation.

Using these four types. Knowledge of Results may be given in a number of different ways, depending on the circumstances. Here are a few examples of possible ways of giving Knowledge of Results:

Each time a trainee answers questions or tries to do the desired action, the instructor can tell him if it is right or wrong or well done or poorly done.

Each time the trainee writes the answer to a question or tries to solve a problem etc., at his desk for example, the instructor gives the correct answer out loud at the front of the room, or demonstrates the correct solution to the problem on the blackboard, or gives some discussion.

Each time all the trainees practice doing something at their seats (such as writing the answers to a question or solving a problem or trying something), by walking around observing individual trainees the instructor can pick one who is doing it right and have him do in front of the class so that the rest of the class can correct their own mistakes.

The correct answer may be given after each attempt to do something or after the trainee has done a series of attempts such as series of problems or questions, the correct answers may be given for the whole series.

Knowledge of Results may also be given through individual counselling with each trainee, telling him how well he is doing, which are his weak points and which are his strong points.

These are just a few possibilities. You should be able to think of many more.

Examples of Knowledge of Results

Here are two examples of two trainers teaching different objectives. In the first example the instructor is not using the principle of KNOWLEDGE OF RESULTS. In the second example, however, the instructor is using the principle. Read both examples, then read the discussion that follows. Try to see why the principle is not present in the first description, and how it is being used in the second.

EXAMPLE ONE - KNOWLEDGE OF RESULTS -- NO
OBJECTIVE: The trainee will be able to explain the building of a copra oil press to a student using the village Technology Handbook as an aid and answering all the student's questions about the method.

Learning Activity: At the end of each day, the instructor asks five questions on points covered during the lectures that day. The trainees write the answers to these questions and turn in their papers. The instructor uses these exercise as an indication of how well the students are understanding his lectures. He does not return the papers, nor is there any discussion about them.

Discussion: This violates rules A, B & C. We cannot say that the instructor is using the principle of KNOWLEDGE OF RESULTS since there is no indication that the instructor tells the trainees the correct answers. In this particular situation the instructor is undoubtedly trying to evaluate how well the trainees are learning and yet how simple it would be to turn this activity into a useful learning experience. The instructor could simply read out the correct answers, thus enabling the trainees to see how well they are doing.

EXAMPLE TWO - KNOWLEDGE OF RESULTS -- YES
OBJECTIVE: The trainee will be able to present a spelling lesson using

a flannelgraph in a village school.

Learning Activity: While the trainee is conducting the class presenting the flannelgraph, etc., the instructor takes down careful notes. After the class is over, he discusses the good and bad points with the trainee who actually conducted the class and with any trainees who observed. Then he makes suggestions on how the class could be improved.

Discussion: In this example the instructor is using the principle of KNOWLEDGE OF RESULTS. First, he discusses all aspects of the trainee's performance, not just the good points or the bad points. Second, he mentions ways that the trainee can improve his performance. The technique the instructor used -- taking careful notes of the class -- is a useful one for an activity such as this where it would be difficult to interrupt the trainee. Note, however, that it is important that this feedback be given to the trainee immediately after the meeting, not several hours or days later.

Review these points about KNOWLEDGE OF RESULTS:

An instructor is using the principle of KNOWLEDGE OF RESULTS when he meets the following conditions:

A. For every activity that the trainee performs, he is told how well he is doing.

B. Each Trainee gets KNOWLEDGE OF RESULTS, not just some of them.

C. He receives KNOWLEDGE OF RESULTS as soon as possible after performing the activity -- preferably immediately after doing it, but at least within one hour of the time that the activity was completed.

Teaching-Learning Principles:

4. Graduated Sequence

Success reinforces learning; failure promotes an avoidance attitude towards learning. Training activities should be sequenced from easy to difficult, from familiar to unfamiliar, from simple to complex. This principle combined with individual differentiation, enhances the chances that each trainee will move at a pace which ensures continued success in approaching and achieving training objectives. The levels in the cognitive and affective domains are a useful guide in sequencing a training program. Inverse graduated sequence tends to frustrate many trainees when they initially encounter an objective that is difficult to achieve. If subsequent objectives are simple or less challenging the frustration of boredom becomes a significant risk.

Graduated Sequence: The trainee must proceed step by step and each step must be in some way more difficult than the previous step.

What is Meant by Graduated Sequence?

Graduate Sequence basically means starting with what is easiest for the trainee and gradually progressing to what is more difficult for him, until you reach the objective. Although Appropriate Practice, doing exactly the action described in the behavioral objective, is always necessary, it is usually wise not to start immediately with the appropriate practice, but to build up to it gradually. First,the instructor may want to give the trainees practice doing pre-requisite skills or to give demonstrations and guidance. This all falls under Graduated Sequence.

Why Use Graduated Sequence?

Graduated Sequence is one of the best known principles of educational psychology. Most trainers apply it more or less naturally in one way or another. However, to be sure you are applying it, it helps to be conscious of what you are doing so that you can check yourself.

There are many reasons that trainees learn better when they proceed from the easy to the difficult. The most obvious reason, of course that some difficult skills simply cannot be mastered until the prerequisite tasks have first been learned. Another reason is that it is more motivating to the trainee to start with something that is familiar to him or that he can master easily. Once he learns how to do one step he will be eager to proceed to the next. On the other hand, if he starts with something too difficult for him, he may become so frustrated that he will decide to give up altogether.

Graduated Sequence makes the instructors job easier too, because as trainees move gradually and naturally from one step where they can perform to the next, they become more and more involved in the instruction and tend to proceed to the more difficult steps far more easily.

How should Graduated Sequence Be Used?

The only rule about Graduated Sequence is that the trainee should start with learning activities which are in some way easy for him and proceed step by step to learning activities which are in some way more difficult for him.

Graduated Sequence can refer to any of the following things:

Simple to complex
Easy to difficult
Known to unknown
Familiar to unfamiliar
From less motivating to highly motivating
From individual parts to the complete whole
From individual units to a combination
From doing something with help to doing it alone
From theory to practice.

The trainee should be able to progress slowly from something that is easy and familiar for him to something difficult and unfamiliar to him. This means that if the action called for in the objective is quite difficult or complex and unfamiliar to the trainee, the instructor should start with some simpler action and build up step by step to the action called for in the objective.

This step by step build up can be done in a number of ways:

1. The instructor can divide the objective into smaller parts and teach each part separately first and then put them altogether to form the combined objective.

2. The instructor can start with those parts of the objective which the trainees already partially know or are at least familiar with.

3. The instructor can start with very simple problems of questions or situations and gradually progress to more difficult ones.

4. The instructor may start with a demonstration and then have the trainee try the action as the instructor guides him, much as a teacher may guide the hand of a small child as he learns to write. Then the trainee may try by himself.

5. The trainee may first simply memorize the theory and then try to apply the theory in actual practice.

6. The trainee may first try the action on a model or in a role-play situation then try it in a real situation.

We can say that the teacher is using the principle of Graduated Sequence if he is following any of the above listed methods. He is making the best use of the principle of Graduated Sequence if he is using a combination of two or more of the above listed methods at the same time. He is making the best-use of the principle if the jump between each graduated step is small. That is, the action required by the trainees becomes only a little bit more difficult each time the instructor moves on to the next step and the instructor does not move one step to the next too quickly.

The instructor is not applying the principle of Graduated Sequence under the following conditions:

He goes from difficult to easy or any of the directions indicated above in reverse order.

He starts immediately with having the trainees practice the actual final action required in objective and has them practice only that with no previous explanation or guidance or step by step build up.

He goes from step to step , but each step is of equal difficulty. The steps do not get harder or complex as he goes along. For example, in nutrition, the instructor teaches about one food group at a time, but there is nothing more difficult about one food group than another.

Examples of Graduated Sequence

Here are two example of instructor's classes. One of the instructors is not using the principles of Graduated Sequence and the other instructor is using the principles. Read the objective and description of the learning activities, then read the discussion that follows.

EXAMPLE One Graduated Sequence -- No

OBJECTIVE: The trainee will be able to explan the rearing of broiler chicks to a voced student.

Learning Activities The instructor begins his series of lectures on rearing of broiler chicks with a discussion of breeding. Because he knows this will be the most difficult subject since most of the trainees are not familiar with breeding technology, he wants to get it out of the way first so that the rest of the course will seem easy.

Discussion: The instructor in this description is not using the principle of Graduated Sequence. He is thinking more about making his job easier, and he is ignoring the fact that he is actually making the trainees job harder. By starting with a subject he knows will be difficult, he runs the risk of discouraging many of the trainees. A wise trainer realizes that trainees learn best when they feel they are accomplishing something.

EXAMPLE Two - Graduated Sequence -- Yes

OBJECTIVE: Trainee will be able to present a flannelgraph story on the pollution problem to village elders and afterwards answer their questions and discuss pollution problems with them.

Learning Activity: The first two days of the course are spent in lectures, and discussions about ways of motivating village elders and a few simple rules to follow in conducting group meetings. The next few days are spent in practicing the use of several visual aids, especially the pollution flannelgraph, and in acting out role playing situations of meetings with village elders. During the last week of the course, the trainees spend three days in the field, where each one conducts at least two actual meetings.

Discussion: This instructor is using Graduated Sequence. Each of his learning activities actually works to get the trainee more involved with the final goal of working in a group meeting in the village. The first activity is relatively simple, and the trainees are allowed to findways of motivating village elders without having to worry about making mistakes, since there are no real elders present. After that the trainees begin to practice what they will do in the village. Finally, they go out and actually conduct meetings in the village.

Teaching-Learning Principles:

5 Individual Differentiation

Individual differentiation means modification of objectives or means of instruction in response to the special needs or talents of individual trainees. This principle is based on the assumption that all trainees are not created equal. They have different entry skills, aptitudes and attitudes. Training activities designed for the middle skill level trainer frustrate those who are fast or slow as well as those who have very extensive or limited skills. Every effort should be made to permit each trainee to proceed at a pace that challenges yet permits success. Moreover, to the extent possible training should be geared to the interest of individual trainees. The latter greatly promotes trainee involvement in learning.

Individual Differentiation: Each trainee should be given the opportunity to learn in the way best suited to him.

What is Individual Differentiation?

Individual Differentation is the principle of learning psychology that recognizes that each of us in an individual, and as individuals, we learn different things in different ways and at different speeds. When using the principle of Individual Differentiation, the trainer structures the learning activities to such a way that one trainee is given the conditions and opportunities for learning which are most suited to his own personality and needs.

Why Use Individual Differentiation?

When an instructor use the principle of Individual Differentiation, he actually makes his job easier. By providing rewarding learning experiences to all the trainees, the instructor avoids both discipline problems (resulting from bored or frustrated students)

and disinterested students who discourage others from learning the material. Using the principle of Individual Differentiation permits the instructor to ensure that he directs his attention to each trainee's learning problems.

How Should Individual Differentiation be Used?

A. Individual Differentiation provides different learning experiences for different trainees, based on actual differences among the trainees--not merely on a random basis.

This means that the instructor may have to teach in different ways to achieve the objective with different types of trainees. It is not enough to give individual assignments to the trainees. Each assignment should be given to a specific trainee or a specific group of trainees for a particular reason. If assignments are simply given out randomly, then it will be a matter of luck or accident whether or not a particular trainee sets up assignment best suited to his needs.

In order to assign learning activities to particular trainees according to their individual needs, the instructor must know something about the trainees. This information should be obtained on the pre-evaluation as mentioned in the evaluation section.

B. Individual Differentiation should give the trainee a chance to develop to his best advantage. It should not have a negative effect on any trainee.

The purpose of training is to develop the trainee. The purpose of Individual Differentiation is to find the best way to developing each trainee in a positive way. Differentiation in a negative way towards any particular trainee or group of trainees is called discrimination and should not be done under any circumstances. The instructor who causes frustration in a particular trainee or group of trainees by deliberately ignoring their special abilities, experiences or interests is using negative differentiations, and therefore is not using the

principle of Individual Differentiation properly. Remember that each trainee is an individual and the purpose of training is to bring out the best in every individual.

There are many different ways of differentiating trainees and no one instructor could possibly apply all the different ways in any one training situation. However, the more ways in which he tries to differentiate to help the trainees, the better he is using the principle. In the examples and exercises that follow, consider that the instructor is using the principle of Individual Differentiation if he tries to differentiate any trainees in any way at all.

Here is a list of a few ways in which trainees may be differentiated. Perhaps you can think of still more.

by intelligence
by speed of learning
by interests
by sex
by age
by job designation
by special talents
by trainees own preferences
by language ability
by previous experience or educational background
by motivations for learning the course material

Only one or two or a few of the above items may be relevant to a particular course or objective. Perhaps some other similar categories may be relevant to some particular objective. It is unlikely that all of those distinctions could be made in anyone course but the more ways in which an instructor tries to attend to the individual needs of the trainees the better.

Individual Differentiation does not mean that the instructor has to divide the class on a one, one basis. He may group the trainees into categories based on their individual differences. Thus, the class might be divided into two, three or four groups on the basis of one of the categories listed above. Fore example, under category one, the trainees might be divided into three groups on the basis of an intelligence test, with the most intelligent in one group, average in another group and the least intelligent in the third group. Or the trainees might be divided into interest groups, with those who have one interest in one group

and those who have another interest in another group.

Some ways of applying the principle of Individual Differentiation are:

1. The instructor may divide the class into groups according to the one or more of the categories listed above.

2. The faster trainees (or the one with previous experience) may be asked to help the slower ones.

3. The trainees who get the correct answer first during practice, may put the correct answer on the board or to give a demonstration for the rest of the class.

4. The instructor may give extra practice on particular points to different trainees, depending on which point each particular trainee is weak in.

5. The instructor may give extra attention and instruction to trainees who are having trouble.

6. The instructor may give extra assignments for outside of class and extra practice for slow students or as additional more advanced material for bright students.

7. The trainees may be divided into different groups according to the results of the pre-evaluations and the objectives may be re-set for the different groups.

Examples of Individual Differentiation

Below are two examples of an instructor's attempts to teach objectives. In the first example, the instructor is not using the principle of Individual Differentiation, while the instructor in the second example is using this principle. Read both examples and the discussion that follows.

Example One - INDIVIDUAL DIFFERENTIATION /NO/

Objective: The trainee will be able to explain Grant-In-Aid forms and reports to his counterpart. His explanation should be consistent with the rules specified by the Trust Terrirory. The counterpart should be able to complete these forms accurately at the end of the explanation.

Learning Activity: At the end of each lecture/demonstration on Grant-In-Aid forms and their explanation, the instructor calls on one of the trainees to write on the blackboard a summary of the points covered concerning the forms.

Discussion: This violates rule A. The principle of Individual Differentiation is not being used. Individual Differentiation means that the individual differences among the trainees will be taken into consideration. It does not mean merely that each trainee will get a chance to do something. In this case there is no apparent reason for calling on one trainee to write on the board rather another. Random selection is not utilization of Individual Differentiation.

Example Two - INDIVIDUAL DIFFERENTIATION /YES/

Objective: The trainee will be able to present the flannelgraph on the pollution problem to a group of local village leaders and afterwards to answer their questions and discuss the problem with them.

Learning Activity: During the first week of the course, when the trainees are acting out role plays of village meetings, some of the trainees have a better technique than others. When the trainees do their field work, during the second week, they are assigned in groups of three, with one good trainee in each group. The good trainee in each group does the first two actual meetings while the others watch and afterwards the instructor points out the good and bad points to all three trainees. The other two trainees then conduct two meetings each, which the instructor also discusses afterwards.

Discussion: In this example the principle of Individual Differentiation is clearly being used. The instructor is making the advantage of the trainees' individual backgrounds and experience by having chose trainees who have poorer technique benefit from the extra guidance given by the better trainees and the trainees with the better technique benefit by gaining confidence in themselves through helping others learn.

*** REVIEW ***

Main Points About Individual Differentiation

An instructor is applying the principle of Individual Differentiation when the following conditions are met:

A. Different learning experiences should be provided for different trainees, based on actual differences among the trainees not merely on a random basis.

B. Individual Differentiation should be used only in a positive way-to allow each trainee to develop to his best advantage. It should not have a negative effect on any trainee.

Learning Activities
Criterion Check

What is Meant by Criterion Check?

A Criterion Check is a short test given during the Teaching-learning activities to enable the instructor to find out how well the trainees are doing. Usually the Criterion Check is given in the middle of the Appropriate Practice activities.

Why Give Criterion Check?

When the instructor is planning the learning activities, he anticipates that some trainees will finish before others or that some trainees have another kind of problem. The only way the instructor can then identify which trainees are having problems learning the material and which trainees have "reached criterion" (that is, can do the activity described in the behavioral objective in a satisfactory manner) is by giving a Criterion Check.

The Criterion Check will consist of activities similar to the Appropriate Practice and the Post-Evaluation. However, the Criterion Check is not used for grading purposes (strictly speaking, nothing in CRI is used for grading purposes). It is used to plan the remaining instructional activities.

How Do You Use a Criterion Check?

The first step in using Criterion Checks is to indicate that it is a preview of the Post-Evaluation, since this is what the Criterion Check really is. Emphasize that to the trainees. It will be used for finding ways to improve the instruction.

The second step is to administer the Criterion Check. This will consist of giving the trainee a set of exercises to do, a task to do, or a project to do. The important distinction is that the activity must be the same as described in the Behavioral Objective. Usually, the Criterion Check is only done for the Appropriate Practice activities.

The third step is to apply the results of the Criterion Check to the instructional process so that improvements can be made. Essentially, there are two main decisions that must be made at this time. These are: what to do about the trainees who have learned the skill, and what to do about those trainees who have not learned the skill.

A. Trainees who have Reached Criterion: These Trainees have performed very well on the Criterion Check and in a sense have achieved the behavior described in the Behavioral Objective. Therefore, the appropriate instructional decision is to find alternative constructive activities for these individuals. Examples might be:

1) They can take the Post Evaluation

11) They can do more difficult exercises

111) They can help some of the trainees who have not reached criterion level.

iv) They can learn different skills, particularly if an instructor is not required.

Imaginative instructors will find many more alternatives to add to this list.

B. Trainees Who Have Not Reached Criterion: These trainees need more practice, and depending upon their performance, may require a review of the Graduated Sequence activities. Perhaps the learning activities were not constructed adequately for these trainees' learning needs. This may entail a re-examination of the Graduated Sequence, Individual Differentiation, or Knowledge of Results to find ways to improve it. The instructional decisions that may have to be made here might include one or more of the following:

1) The trainees receive individualized special tutoring.

11) The trainees do more Appropriate Practice exercises.

Again, imaginative instructors will be able to add to this list.

Post Training Evaluation

At the end of the training program it is essential to determine what percentage of the trainees met what percentage of objectives. This indicates:

1. What changes should be made in subsequent training programs,

2. What can reasonably be expected of Volunteers in the field during the initial months, and

3. What in-service training will probably be required.

Post evaluation involves testing the trainees in terms of the objectives stated. If the objective is that the trainee will be able to swim fifty yards in rough water, then the post-evaluation involves each trainee swimming fifty yards in rough water. Each of the program objectives should be post evaluated because of objectives comprise the minimum qualification standards for the trainees and they measure the effectiveness of the training program. If a significant percentage of trainees fail to meet a specific objective, it indicates that the objective was either beyond their capacity (i.e., an error was made in either setting the objective and/or interpreting the pre-assessment) or it was not trained for efficiently. In such an instance, the first conclusion is that the objective should not be used for qualification. The second conclusion is that, if essential to Volunteer performance, it should be retrained in an in-service program. The third conclusion is that it is incumbent upon the responsible training staff to examine the objective, pre-assessment, and the learning activities, to determine those areas where improvement and modification are necessary in subsequent programs.

What percentage of trainees met what percentage of program objectives combined with information from the pre-evaluation, indicates specifically what training and the trainee staff did and did not accomplish.

While a training post evaluation is necessary, it is not sufficient. It should be combined with an evaluation or evaluations of Volunteers in the field. This provides a valuable check on the accuracy of the training staff's judgements on how well trainees meet program objectives. More important, a field evaluation indicates the relevances of the program objectives and by extrapolation, the accuracy of the task analysis. This data should be of critical importance in designing follow-up programs in the same technical area and has carryover value in terms of both cross cultural and language task analyses.

Procedures for conducting a post-evaluation are covered in the Post Training Activities section.

CONDUCTING A POST EVALUATION

An instructor is conducting a proper Post-Evaluation when he meets the following conditions:

A. The Post-Evaluation consists of testing procedures or test items in which the trainee performs the exact same behavior described in the behavioral objective.

B. The Post-Evaluation must come after the learning activities for that particular objective. That is, trainees must have the opportunity to practice the desired behavior before they are tested on it. The practice itself cannot be the test.

C. The Post-Evaluation must test all of the trainees. Each trainee must demonstrate his degree of achievement of the objective.

CHARACTERISTICS OF POST-EVALUATION

A. The Post-Evaluation requires the trainee to perform the exact same behavior described in the behavioral objective.

This is the whole point of having behavioral objectives. Once you have stated clearly that the trainee will be able to do at the end of training, evaluating whether or not you have achieved your goal is very precise. At the end of the training programme, you simply have the trainee do that same action. If he can perform it correctly, then your training has been successful; if he cannot, then your training needs improvement.

Think of it in these terms:

Behavioral Objective	:	Trainee will be able to do XYZ
Learning Activity	:	Trainee practices doing XYZ
Post-Evaluation	:	Trainee does XYZ

Let's look at some examples of an instructor using a proper post-evaluation versus an instructor not using a proper post-evaluation.

Objective: When tagging turtles, the trainee will be able to obtain the necessary information for the Marine Laboratory proforma and fill out the proforma correctly.

Example A-1

Post Evaluation --- No

Testing Procedure: After practice tagging several turtles and filling out proformas, on the Post-Evaluation the trainees are asked to list the information required for the proforma.

This is obviously not a proper testing procedure for this particular objective because it requires a completely different behavior from the one stated in the objective.

Consider instead,this Post-Evalution for the same objective:

Example A-2

Post Evaluation --- Yes

Testing Procedure: After practice tagging several turtles and filling out proformas, for the Post-Evaluation the trainees are asked to collect the necessary information while tagging turtles and to correctly complete the proforma.

This is a proper Post-Evaluation because it duplicates exactly the action described in the behavioral objective.

Now think about this. . . .

> If an instructor uses a testing procedure that is inappropriate for the objective he is teaching, and yet still succeeds by having his trainees perform very well, hasn't his instruction still been effective and worthwhile?
>
> We hope that you think it has not been effective and worthwhile. If you get into a taxi and ask to be taken to the airport, and instead the driver takes you

to the railway station, would you consider his job well done? Of course not. In the same way an instructor who consistently accomplishes objectives other than those he intends is only fooling himself and being unfair to his trainees.

B. The trainees must be allowed to practice the behavior described in the behavioral objective before the Post-Evaluation of that behavior.

Just as the Post-Evaluation must duplicate the action described in the behavioral objective, the practice must also duplicate that same behavior before the Post-Evaluation.

This means that each trainee must perform the action described in the objective at least twice; at least once for practice and once for the Post Evaluation.

Thus, the practice cannot be the Post-Evaluation. Although it is true that the Post-Evaluation will serve as extra practice for the trainee and he may learn from it, this is incidental. He should have already learned the skill before the Post-Evaluation. If there is only one practice, then it cannot be used as a Post-Evaluation. At least one practice must procede the Post-Evaluation.

What follows is an example of an instructor who improperly post-evaluates without having provided practice and one who provides the necessary practice before the post-evaluation.

Objective: The trainee will be able to design and draw an effective school visual aid, following the guidelines provided in class.

Example B-1

Post-Evaluation --- No

During a five day course for artists, the instructional staff presents a series of lectures, slides and demonstra-

tions on effective visual aids for classroom use. At the end of the course each student is asked to produce one visual aid which is used as the post-evaluation.

****

This is not a proper post-evaluation as none of the artists have had an opportunity to practice prior to doing the post-evaluation. Imagine yourself in the position of having to perform an unfamiliar skill as a post-evaluation prior to having any practice. Your chances of success will be much less than with sufficient practice. An important if practice is not necessary prior to the post-evaluation, it's likely that either the objective was trivial or the time devoted to it unnecessary.

Here is an example of a proper Post-Evaluation for the same objective.

Example B-2

Post-Evaluation --- Yes

Testing Procedure: During a five day course for artists lectures and demonstrations on how to make effective posters are interspersed with practice actually making posters so that by the end of the course each trainee has designed and drawn at least four school visual aids. The last visual aid created by each trainee is used as the Post-Evaluation for the course.

This is a proper Post-Evaluation, because the trainees have each practiced making at least three posters before the Post-Evaluation.

C. A Post-Evaluation Must Test All of the Trainees

Each and every trainee must demonstrate whether or not he has achieved the objective.

It is not enough to just test one or two trainees in the class, because, even unintentionally, instructors tend to select the

best trainees to give the final demonstration and thus come to the false conclusion that all the trainees are doing well when they may not be.

This also means that if the behavioral objective states that each trainee will be able to do XYZ, then for the post-evaluation, each trainee must do XYZ on his own. Group activities cannot be counted as individual achievement. Even if the objective deals with the trainee's ability to work in a group, then each trainee must be observed for how well he works in the group.

Objective The trainee will be able to prepare a design and cost estimate for a copra warehouse that satisfies structural, aestetic and fiscal requirements as defined by the Community Development Officer.

Example C-1

Post Evaluation --- No

Testing Procedure. After the instructor demonstrates the proper procedure for preparing a design and cost estimate, the trainees work in groups of five and each group practices preparing a design and estimate at least twice. For the Post-Evaluation, one trainee is selected from each group to demonstrate the correct design and cost estimate procedure.

This cannot be a proper Post-Evaluation because only a few of the trainees have been tested. It may be that they are the only ones in the class who could prepare the design and estimate. In this description it is also questionable whether all the trainees got to practice either, since frequently one or two group members tend to dominate the group.

Example C-2

Post Evaluation --- Yes

Testing Procedure: After the instructor demonstrates the proper procedure for preparing a design and cost estimate, the trainees work in pairs, taking turns preparing the

design and estimate, so that each one gets to prepare a design and estimate at least twice. For the Post-Evaluation, each trainee prepares his own design and estimate. The instructor checks the solution of each trainee.

This is definitely an appropriate Post-Evaluation because it meets all the criteria. Each trainee is tested. The testing comes after each trainee has had a chance to practice. And the Post-Evaluation activity duplicates exactly the action described in the behavioral objective.

Training Evaluation Introduction

When properly designed and utilized, evaluation can and should be the single most important management tool for Peace Corps training. Broadly speaking there are three major areas of operation which effect training quality, i.e., :

1. budget and fiscal
2. personnel
3. program-training design and implementation

Evaluation can be defined as falling into two major categories, i.e., norm-based and criterion-based evaluation. Norm-based evaluation is based on comparative performance quantity or quality. One example of this might be comparing per trainee costs of one country with those of another. Criterion-based evaluation involves setting goals or objectives and measuring success against these. An example of this might involve a country or Region establishing a per trainee cost goal and a method of achieving it and measuring success in attaining this objective.

While norm-based evaluation has value both as a method of collecting data and as a mensuration device, criterion-based evaluation has generally proven to be a more useful management-oriented tool. The systematic approach to training which is the focus of these guidelines is a means of instituting a criterion-based type of evaluation in those situations when it is applicable and likely to yield data which permits improvement of operations.

The establishment of causal relationships is the key element in a criterion-based evaluation approach. All too often decisions which are subject to evaluation are made in isolation from the types of causal related data which are essential to accurate and relevant judgements. Training decisions, including those effecting personnel, budget and content, are frequently taken in isolation from programming data. Program decisions are taken on the basis of subjective interpretations of prior experience, largely in isolation from data on what goals have been attempted in the past and the ways in which programming, training and support have attempted to promote the achievement of goals. For this reason, evaluations of these decisions are

often subjective and, more importantly, do not yield the type of data needed to make improvements in the program.

The production of information that will permit program improvement should be the primary rationale for evaluation. To accomplish this it is essential that:

1. Measurable goals are established;
2. A systematic approach is used in achieving these goals;
3. The decisions involved in this approach are documented;
4. A final evaluation is conducted that includes:

    a. Specification of the results;
    b. Analysis of the decision-making process;
    c. Identification of factors which contributed to and/or inhibited progress towards the goals.

Training is an element of a total programming and training process. Evaluation of the training process is only valid insofar as it relates to programming and to the whole. A schematic presentation of this total evaluation process is given on the following pages. In this the essential hypotheses are contained in the job-descriptic task analysis, skill and preconditions, screens and task detailing. Training decisions can, in turn, be validated by training and field evaluation.

PROCESS PHASE	EVALUATION CRITERIA	EVALUATION MEASURES
1. Program Conception	a) Consistency with three goals of Peace Corps Act and Peace Corps Philosophy?	i) Pre-program: logical consistency. ii) Post-program: reports of Volunteers, Host Agencies.
2. Job Description	a) Do Volunteers as individuals/ groups perform in the job areas defined?	i) Questionnaire for PCVs & Host Agency designed to elicit this information. ii) Observation of Volunteers in the field.
3. Task Analysis	a) Do Volunteers in the field perform the tasks defined in the language, cross-cultural and technical areas. Are original predictions of task importance, frequency and difficulty correct? b) Are Volunteers in the field performing tasks not specified in task analysis? c) If the answer to "b" is "yes," do the tasks performed by the Volunteers comprise a viable job compatible with Peace Corps and Regional philosophy.	i) Same as job description. ii) Same as job description.

PROCESS PHASE	EVALUATION CRITERIA	EVALUATION MEASURES
4. Skill Screen	a) Has it been possible to train the requested skill level trainees to perform the tasks specified?	i) Post-evaluation of training. ii) PCV performance in the field.
	b) Are Volunteers able to perform tasks more sophisticated than those stipulated in the task analysis?	i) Training pre-evaluation. ii) Training post-evaluation iii) V performance in field.
5. Pre-conditions Screen	a) Are Volunteers unable to perform predicted tasks because essential pre-conditions were not identified?	i) same as job description. ii) PCV performance in field.
	b) Are Volunteers unable to perform predicted tasks because of inaccurate judgements on the presence of essential pre-conditions?	i) same as job description. ii) PCV performance in field.
6. Task Detailing	a) Has task detail provided adequate and accurate data for developing training en-route objectives?	i) Training post-evaluation.
7. Training Objectives	a) Was judgement of priority tasks, i.e., those	i) Performance of PCVs in field.

PROCESS PHASE	EVALUATION CRITERIA	EVALUATION MEASURES
	selected as training objectives, accurate?	
	b) Were training objectives faithful to the domain and taxonomic level of tasks?	i) Logical consistency. ii) Ability of PCVs to perform tasks at predicted level measured by: A) field observation B) self-reporting C) host-agency reporting.
	c) Did training objectives include all those tasks identified as training priorities?	i) Logical consistency.
8. Training Pre-Assessment	a) Were trainees able to achieve skill performance levels predicted in training objectives?	i) Training post-evaluation.
9. Training	a) Were trainees able to achieve skill performance levels required by task analysis and predicted in training objectives?	i) Training post-evaluation ii) Performance of PCVs in the field.

PROCESS PHASE	EVALUATION CRITERIA	EVALUATION MEASURES
10. Training Post-Evaluation	a) Were trainees able to perform tasks at the level certified by training post-evaluation?	i) Performance of PCVs in the field.
11. Field Evaluation	a) Do subsequent programs reflect accurate analysis of data obtained in field evaluation?	i) Performance of subsequent PCVs indicates reduction or elimination of problems identified in initial program by means of steps 1-10 above.

Included in the following pages of this Training Evaluation sub-section of the Methodology section are summaries of training evaluation procedures and training documentation and review. The training evaluation procedures are discussed in detail in the subsection of this Methodology section on the steps of the process. The elements of training documentation and review are discussed separately and in detail in the three Training Activities' sections (4.0 Pre-training, 5.0 Training and 6.0 Post Training).

In addition to the sections noted above which relate to evaluation, special reference is made to "Programming Evaluation: Manual for Internal Program Evaluation in the Peace Corps." This manual details the overall Peace Corps evaluation approach of which training evaluation is a part.

Norms-Based Evaluation

While criterion-based evaluation is viewed by the Peace Corps as the critical management tool this does not preclude the use of norm-based evaluation. Such evaluation measures as attrition levels (based on man months of service) and return on investment (based on valuing tasks identified in task analysis in monetary terms), are useful, both as a means of collecting data and as mensuration devices. Exploration of the validity of these and other such norm-based measures should be an integral part of continuing evaluation and improvement of training.

SUMMARY OF TRAINING EVALUATION PROCEDURES

Evaluation in this systematic criterion referenced approach to training, which is the basis of these guidelines, is a tool used for improving training and not for grading trainees. For this reason, it is important that the pre-evaluation (or pre-assessment), criterion check, and post-evaluation be conducted properly and the results used properly. Briefly, these three evaluation processes are:

Pre-Evaluation (or pre-assessment) is used to determine what the trainee knows and what his interests are when he first comes to training. It should determine whether or not the trainee can do the activity or skill he is to be trained in, and whether he has the prerequisites for learning it.

Criterion Checks are used to determine learning progress, including whether more appropriate practice should be provided, whether some trainees should be given special tutoring, and whether some trainees should be given additional activities to do. The criterion check is the trainer's assessment tool for making decisions during the teaching-learning activities.

Post-Evaluation is used to determine how successful training was. It is simply a measure of how many trainees can do each activity correctly at the end of training. In successful training programs, most of the trainees will demonstrate the ability to perform each activity. But, we can only say that training was successful if we can show that the trainees could not do the activity before training.

A diagrammatical representation of this process is given on the following page.

Evaluation is useful only if it results in modifications in the instructional process. If a trainer evaluates his course, but does not use the results of the evaluations to modify the training, what good was his evaluation? It is like a man who owns an automobile. Each day he measures the oil level, notes that it is below the empty mark, but he does nothing to change the situation. Soon his auto-

mobile will be in disrepair. A training program is just like the automobile, if a trainer evaluates it, but does not use the results of the evaluations to make his decisions his program will suffer.

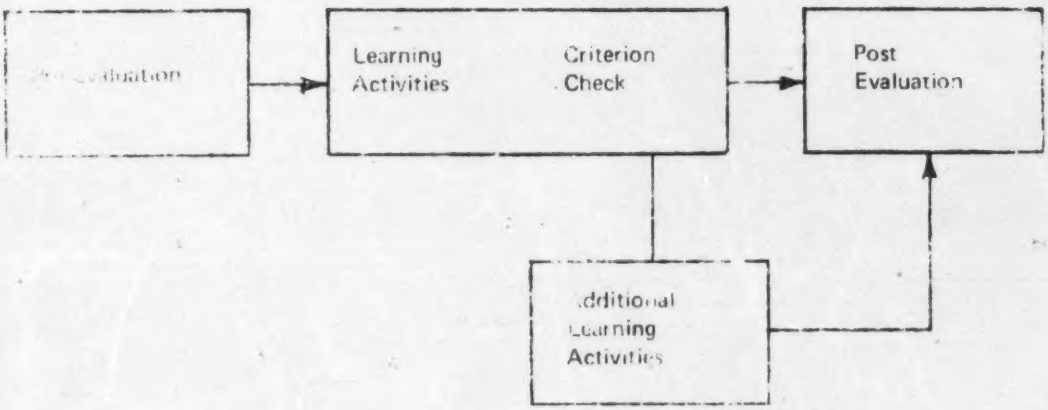
Proper evaluation will tell the instructor whether or not the instruction was successful. If it was not successful, it was for one or more of these reasons:

1. The trainees were improperly prepared for the class-either they did not have the proper prerequisites or the objective was unrealistic.

2. The instruction was inadequately planned for the course.

3. The instruction was inadequately conducted.

TRAINING EVALUATION PROCESS



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Training
Task Analysis
Objectives
Pre-Evaluation
Learning Activities
Post Evaluation
Field Evaluation
Programming